UPDATE!

Magazine

The Largest

Sinclair Magazine

In The West

JANUARY 1995

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UPDATE COMPUTER SYSTEMS is edited by Frank Davis and published by Carol Davis of P.O. Box 17, Mexico, IN 46958 USA. The phone number is 317-473-8031 for both voice and fax. Normal hours for voice are 6 to 9 P.M. Tuesday thru Saturday. Please use the answering machine if we are not available, and leave a short, concise message with both phone number and address. The hours for faxing are from 11 P.M. to 6 A.M. Monday thru Sunday, and at other times if you let us know that we have a fax coming. Most answers to questions left on the machine will be by mail, as long distance charges are too costly for a small magazine to be expected to bear.

Mailing date of the magazine: all issues will be mailed out near the 20th of the months of October, January, April, and July. All mailings within the USA are by bulk mail and may take a few weeks to reach you at the most. Those wishing to have faster service may pay $4 extra for First Class Mail. The present rate for North America is $20 in US$; and 18 Pounds, or 40 DM in European currency, for a subscription. All issue years run from October to July of the next year, and those who subscribe during a year will get all of the issues for that year. In this way all subscriptions begin and end at the same time. Timely renewals are what keep us in business!

Assistance in publishing this magazine is provided by you the readers, many of whom have contributed news, articles and reviews. We offer you our heartfelt thanks. We are mainly assisted by our longtime friend, Eliad Wannum, Poet, Psychologist, and Sinclair computer user. In addition, regular contributors have been: Bill Cable, Paul Holmgren, Al Feng, Don Lambert, Bob Swoger, Abed Kahale, Peter Hale, A. E. Green, to name just a few. We invite you to submit material for publication to UPDATE MAGAZINE. Please make all hard copy (printed out) submissions Letter or NLQ; no draft print, or 2040 thermal print. The quality is too poor to print in a readable manner, and we do not have the spare time to re-type an article. If you do not have a printer capable of this, then send the article on disk to us as: Z88, IBM, QL, TS2068 in Oliger or Larken, or in an Amiga file. We can handle these disk formats. We can use 5.25 or 3.5 disks, in DSDD, HD or ED densities. Send two copies of hard copy. Do not submit stuff on audio tape, as we no longer have tape decks for the TS1000 or the TS2068. Try to avoid flowery or hard to read fonts, unless you are showing us sample output from a printer reviewed or a program. If artwork for an article is to be included, please let us know in what order you think it should be displayed. We can accept articles over the fax.

Those wishing to place ads in UPDATE MAGAZINE: We have two ways of handling ads. ONE, we will do reciprocal ads for other publications (generally on a year for year basis) with both of us exchanging copies of the issues the ads are placed in. TWO, the other way, is to purchase ad space from us, with the following rates in effect for now: $15 per quarter page; $25 per half page; and $40 per full page ad. This is per issue. For inclusion in all four issues, you pay for three issues in advance, and get the fourth issue free. For two issues you pay full rate for one ad, and get $5 off of the cost of the second ad rate. Should you have any questions on this please contact Frank Davis either by phone or mail, as listed above. All checks should be made out to UPDATE MAGAZINE.

We hope to be of service to you. Thank you for your support.

UPDATE DIRECTORY FOR JANUARY1995

The computer that an article concerns is marked by using the following mark in the first column of the directory: TS= article for TS2068 or Spectrum; QL= article for QL or QXL; ZX= article for TS1000, ZX81, TS1500; 88= article for Z88. GI means article of general interest.

Front cover art by Abed Kahale of CATUG, the Chicago Area Timex User Group

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EDITORIAL by Frank W. Davis

First of all allow me to offer my apologies to our readers for what may be, if not our latest, then next to it, of ever getting this magazine out to you. We are still here. I am not sure if I should bore you with an explanation, or not.

Please note that the address on the front cover is different. It now says **"P.O. Box 17, Mexico, Indiana 46958".** This is a change from our Peru, Indiana address of many years. We are still physically in the same location. We have changed to a different office for all of our official mailing due to theft of our mail by a postal clerk at the Peru post office. I really hate to say this (I am myself a postal employee at the same office and close to retirement) but I feel that you need to know the truth, not the "politically correct answer". This is the action of just one, to our knowledge, employee, and management personnel who say "It was all just a joke and no harm was intended". We still have mail unaccounted for and some that was being sent back as "unknown" by this person. The Postmaster refuses to discipline or get rid of this employee, so we have changed our mail location to another office that I feel I can trust better. We will still be mailing out of the Peru office for each issue, as that is where all of our mailing permits are for, and the cost would be prohibitive to change that till they come time for renewal. There you have the story. **We are still here and will only stop when we have told you we will stop. Please send all moneys, articles, or inquiries to our new P.O. Box, it is only 7 miles further away, and on my route of travel 5 days a week.**

We have something good for those of you who are TS2068 users. John McMichael, who did a lot of great graphics programs for the TS2068 a few years back, has kindly offered to UPDATE! Magazine the rights to offer his 6 disk collection of imported IBM graphics set up to use in Print Factory. We are now going to be offering these as Issue Disks in the Oliger and Larken format (and in Aerco format if some kind soul wants to take the time to translate them over to Aerco for us). The price will be $7 for each disk, or $40 for all six disks. Let us know what disk size and density, as most folk have not been doing this lately and this then makes it necessary for us to write back and wait for this information. Takes longer. Those who sent for or paid for Print Factory and did not get it should contact me about making good on what you wanted. The price is small to cover costs. Also, all Larken users see the new issue disk of "Logicall V5.2 Professional". We may soon have an Oliger version of this smooth program.

One other thing that has slowed us down lately (besides my 12-14 hour days lately at my regular job) is that I recently mailed out a new and bigger catalog for my sideline business **"Mechanical Affinity"** and the response has been very good. In fact so much that it has slowed down my response time. Business has been good, but not quite good enough to hire and train someone to help out on this. Please bear with me so that I can get caught up. This brings up the one other thing that has slowed me down. I get lots and lots of phone calls. How do you very politely tell people that you consider friends that you need them to limit the time you spend on the phone so that you can work on the magazine and send out orders and order stuff from Europe to fill orders? All of this takes time, and I have very little of this to spare. This does not mean to not call me about an order, just for awhile please try to make the calls short so I can get back to work, and still have some time for a social life. Please try to understand, and do not be offended. Please note the new phone hours given in my Mechanical Affinity ad. Thank you.

I hope to see as many of you as I can in the upcoming months at the shows in Dayton (the Computerfest) and the QL show in Oak Ridge, TN. If any of you want to contribute to these shows, write an article, publish an Issue Disk, etc., then feel free to contact us. As they use to say on TV in the wine commercials, "we thank you for your support!"

Larry Crawford / 357 Reynolds Rd / London Ont / Canada / N6K 2P8

29 Dec 94

Frank Davis
P.O. Box 1095
Peru IN USA
46970

Dear Frank

Enclosed are copies of "ctas.B1" v9.2. If you have sent copies of the previous version to anyone and happen to have a record of who, send me his name and address and I'll mail him the latest version.

Also enclosed is a schematic of my working version of Bill's ROM/EXROM bypass board. In case you ever have time to look at it, I'll lead you through its operation in the Tas file "bypass.CT".

Note that the E3 enable pin of the LS138 is connected to the BE line, not +5v. I told Bill that his version did not work in real life, but I guess that he had already printed his latest schematic or still believed in his logic. I replaced his DIP switches with DPDT toggles which are so much more convenient to use (especially since my board is installed in behind other boards and the DIP switches would be physically inaccessible).

The toggles also look after the "deaf" and "dumb" states of the various control pins of the memories automatically, eliminating the possible confusion inherent in setting each one manually.

It took me many hours to prove out the many possible variations of it since my board is hand-wired and every time I made a mod, I managed to create a solder bridge or melted the insulation on a couple of overlapping wires so that they shorted or one of the wires came unsoldered. It was a very frustrating experience but the circuit conforms to Bill's logic and works fine at last.

I said in my last note that the $\overline{\text{RFSH}}$ signal was not needed. All my programs ran fine without it, but Bill must have had a good reason to include it, so I put it back in.

Wishing you and your family the very best for the new year, and thanking you again for all your efforts,

Larry C

Larry Crawford

ROM AND EXROM BYPASS BOARD INFORMATION
dedicated to the memory of Bill Pedersen

Larry Crawford / 357 Reynolds Rd / London Ont / Canada / N6K 2P8
(519) 657-9119
29 Dec 94

Way back in 1988, Bill Pedersen reasoned correctly that it should be possible to disable the HOME ROM and EXROM and enable other ROMs external to the 2068. This process could be done without opening the computer case.

HOME ROM can be disabled by driving the BE line low. This is accomplished by the 74LS08 AND gate U6B. Its output at pin 6 will be low if the output of either the LARKEN or Oliger DOS board is low. (and other conditions which will be covered later) To implement this, since there is not an unused edge connector in the slot, the the LARKEN board must be patched onto a board which can be plugged into an expansion slot at the rear of the 2068. The BE line must be cut between the large diode and the edge connector and the diode connected to the center pole of a SPDT switch. The output (anode end of the diode) can then be switched to P1A-29 for normal internal operation with the bypass board removed or to P1B-26, an unused P1 connector. This line is designated BE' NOT and will take over control of the computer at power-up if the bypass board is installed.

Since the Oliger board is already on an expansion slot board, it needs only to have its BE output switched to the same P1 connectors.

When the system is booted, the DOS boards, which are located in the DOCK bank, have priority and drive the BE line low (U6B-pin 6) and reset the 74LS74 flip-flops (U6C-pin 11). At this time the Q outputs are low and the Q NOTs high thus making the BE line high so that the SCLD can send out an EXROM enable signal. The flip-flops are also reset by U6C during a REFRESH cycle.

HOW THE EXTERNAL EXROM GETS CONTROLLED

When the EXROM line goes low, the MREQ line will already be low. Thus the 74LS32 gates U1B & U1C SET flip-flop A, making the Q output high. This effectively latches the flip-flop outputs. Since Q NOT is low, the external EXROM is enabled and the BE line driven low by gates U6A & U6B, disabling both HOME EXROM and the 74LS138 decoder. Thus the external EXROM stays active until the MREQ line goes high. AT this time the CP input makes a low-to-high transition and resets the flip-flop. Since the DATA input is grounded, Q goes low and Q not goes high. This disables the external EXROM and makes the BE line high, allowing the SCLD to operate normally.

HOME ROM

The HOME ROM is controlled by the ROSCS signal from the SCLD. Unfortunately, this line is not available at the P1 connector. However, it can be simulated by the use of a 74LS138 decoder. It has three enable inputs and three data inputs. The decoded output is driven low. All others are high.

HOME ROM will be active when BE NOT is high, A14 and A15 are low, and ROSCS NOT, EXROM NOT,and RFSH are high. Under these conditions, CHUNKS 0 and 1 are being addressed and both the DOCK and EXROM banks are inactive.

HOW EXTERNAL ROM GETS CONTROLLED

Since ENABLE E3 of the 74LS138 decoder is high, if A14 and A15 are both low, the '138 will be enabled. Then if the ROSCS and EXROM lines are both high, output 3 will go low, simulating an active ROMCS line. This is applied to one of the inputs of OR gate U1A. The rest of the sequence of events is the same as for control of the the external EXROM.

OTHER LOGIC COMPONENTS

Functions of the bypass board are controlled by by four DPDT toggle switches:

E&F select internal or external operation. When the board is first tried out, set them for internal operation. Switch E disconnects the MREQ line from the flip-flops and connects the CP inputs of the flip-flops to the 5v buss. This keeps them from being reset by a ROM or EXROM request. At the same time, switch F disconnects the RD line from all four memory chips on the board. This prevents spurious data from being read and confusing the system. The computer should operate as if the board were not installed.

A&B set the board for either EPROM or SRAM operation. The buffered Q NOT outputs of the flip-flops are routed to the CE pins of the appropriate memory chips.

C&D select operation so as to run the code in the SRAMS or to load code into either one.

THE 74LS125 TRI-STATE BUFFERS

This chip was added to keep the backup battery drain to about 2 microamps when the computer is turned off. Otherwise, about 2 ma leak back through the other ICs, shortening the battery life significantly.

LOADING CODE INTO THE SRAMS

1. Select SRAM operation. (SWs A/B)
2. Select INTERNAL operation. (SWs E/F)
3. Select ROM to LOAD. (SW D)
4. Load ROM code to 32768.

5. Switch D to RUN.
6. Select EXROM to LOAD. (SW C)
7. LOad EXROM code to 32768.
8. SWitch C to RUN.
9. Select EXTERNAL operation. (SWs E/F)
10. Reboot the computer.

Loading of the codes is probably best done with a simple Loader Program stored on the same disk as the ROM and EXROM codes. Here is an example:

```
   10 REM EXTERNAL ROM AND EXROM LOADER
   20 CLS: PRINT AT 10,5;"LOAD ROM OR EXROM?  (R or X)":
      POKE 23658,0: INPUT a$
   30 IF a$="r" THEN RANDOMIZE USR 100: LOAD "ROM.C1" CODE
      32768: STOP
   40 IF a$="x" THEN RANDOMIZE USR 100: LOAD "XROM.C1" CODE
      32768
 9998 STOP
 9999 RANDOMIZE USR 100: SAVE "ex-r/x.B1" LINE 1
```

If both SRAMS are to be loaded, RUN the program and select the ROM switch to LOAD before responding "r" to the prompt. Switch to RUN. RUN the program again and select the EXROM switch to LOAD before responding "x". Switch to RUN and select EXTERNAL operation.

Note that the ROM is controlled by the SCLD which can address only 16K. Thus this is the maximum size of the external ROM.

Since the external EXROM is fully addressed, the maximum size of it is 32K.

Note that even though the codes are loaded to 32768, both the ROMs will run as shadows of the internal ones. Thus the external ROM will be called at 0000 by the SCLD at power-up.

WHY THE EPROMS?

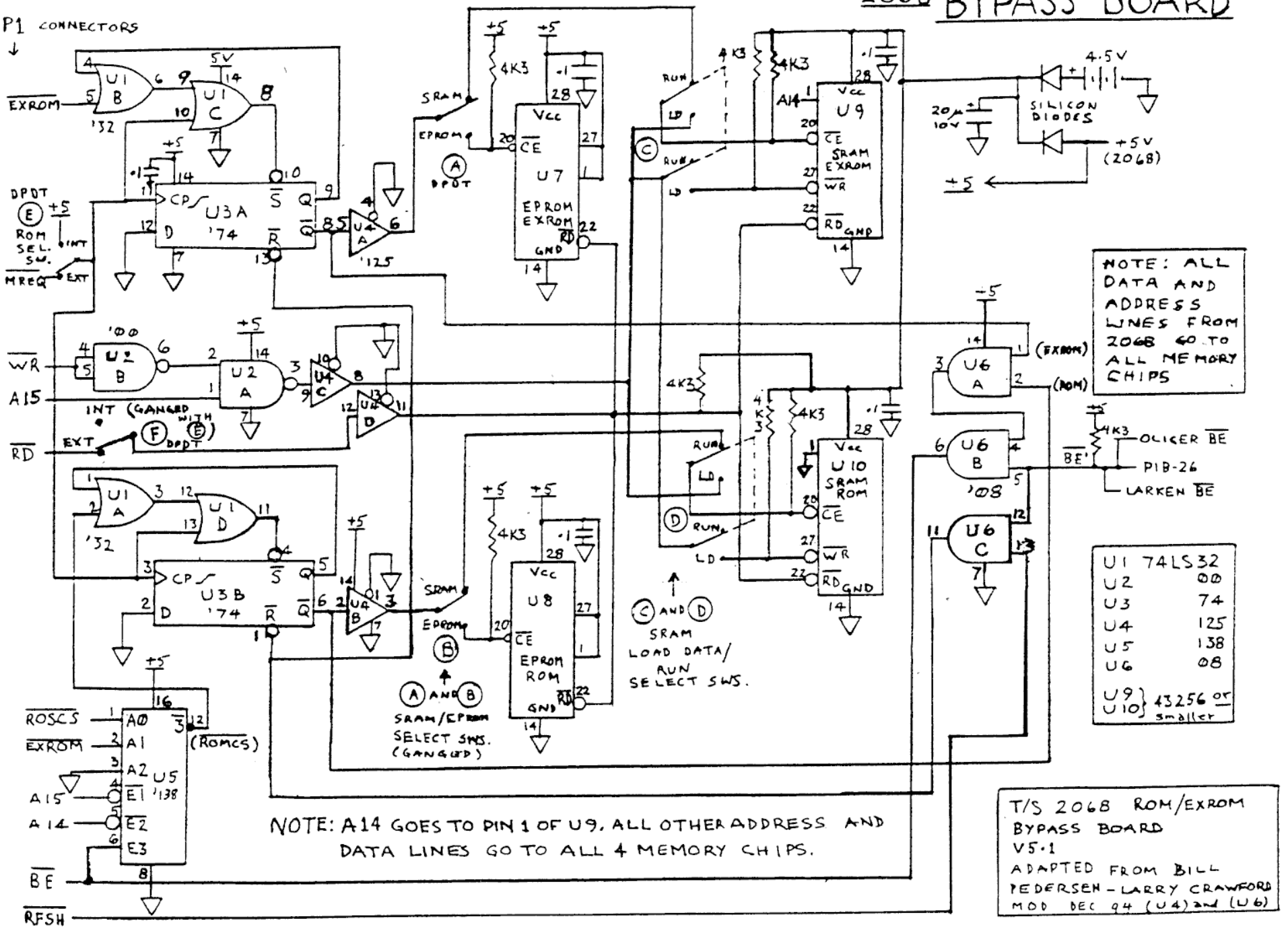
Using the SRAMS is a very convenient way of making and testing changes to the ROMs. After the changes have been proven, EPROMS can be made and installed on the board. The backup battery can then be removed and switches A&B left in the EPROM position.

BOOTING THE SYSTEM WHEN THE EXTERNAL BOARD IS SELECTED

On power-up, the SCLD could be calling the EXROM. In which case, the 2068 will not be comletely initialized. A proper solution would be to modify the EXROM codes so as to send control back to address 0000 of the ROM. For now, turn on the disk drives before the computer. If the ready light for drive 0 does not come on, reboot the computer. It may take 2 or 3 attempts to get it all together

LDC

2068 BYPASS BOARD



ZX81 Emulator for the Atari ST

By Tim Swenson

While doing a little net surfing looking for more Sinclair resources on the net, I ran into a mention of a ZX81 emulator for the Atari ST. Having recently picked up an ST, I decided to try the emulator out.

After a few machinations and a call to a local Atari user group, I was able to get the file to an ST TOS disk. This is the first program that I've downloaded off the Internet and transfered to the Atari.

After the program loads, it brings up an introduction screen with a nice picture of Sir Clive. Clicking on GOTO ZX81 takes you to the emulator. The screen clears, there is a pause (just like the real ZX81), and the familiar K cursor appears.

It's been a while since I played with my ZX81, so I forgot where most of the keys are. Hitting the HELP key will bring up a big display of the ZX81 keyboard. This feature is available at any time in the emulator. It's fast to pop up and disappear so it only takes a second to look up a key.

One other special key for the emulator is the UNDO key. (For those unfamilair with the ST, it has two keys acutally called HELP and UNDO.) Hitting the UNDO key brings up a window with the following selections:

Power Pack - Lets you select 1K, 16K, or 48K memory.
Joystick - Lets you reconfigure the keys used for cursor movement, instead of the usual 6, 7, 8, & 9.
Cont - Resumes the emulator.
Break - Stops the program in progress and clears the screen. For Basic programs the space bar still works as the break key.
Reset - Reset the emulator to its original settings.
Quit - Leave the emulator.

The speed of the emulator is about that of the original ZX81, at least the speed I recall. I have not run any benchmark tests to compare it with the ZX81.

Another neat feature is LOAD "". Instead of the usual loading of the first program found on the tape, it pops up a window and gives a directory of ZX81 files (*.81). You can then use the mouse to select a file to load. All LOADs and SAVEs are to the disk drive.

The emulator comes with about 30 ZX81 programs. Some are written in Machine Code and run fine. Since the emulator was written in Germany, some of the programs have German prompts. Most of the programs are games, some adventure and some arcade, but there are some utilities too. There seems to be an assembler and disassember (did not try them out).

The emulator comes with little documentation. The original German documentation is very short. There is one English document that was written by a user that found the emulator on a BBS. It seems to be more thorough than the German docs.

I did not put the emulator through too many paces. I did notice that the graphic keys are supported (the grey characters). If you looked at only the screen you would swear it was really a ZX81. It looks that good.

Since some of the example programs are Machine Code, I would assume that the emulator supports the full memory map of the ZX81. You should be safe doing assembly language programming with it.

There is no mention of how to get existing ZX81 programs to the ST. Some sort of modem transfer might work.

The final thing about the emulator is that it is freeware. Since the ZX81 ROM is still technically copyrighted by Sinclair Research Ltd, if you own a ZX81 or a T/S 1000, you should be OK legally. But I doubt that the copyright of the ZX81 ROMs is being seriously upheld. If there are any Sinclair people out there that don't have a ZX81 or T/S 1000 (which I doubt), there are lots of them at flea markets for about $10 or less.

As for the Atari side, I have an old 520 ST with an old Single Sided, Quad Density disk drive and it works find on this. It should work on any ST, STE, MegaST, etc.

In summary, if you have an ST, pick up the emulator, It's free and kind of fun to have.

There might even be somebody out there using any of the ZX81 emulators for serious work. If you love the ZX81 and want to continue using it and do not want to worry about your ZX81 dying, the current emulators are good enough to replace the old hardware.

QL Hacker's Journal
Supporting All QL Programmers

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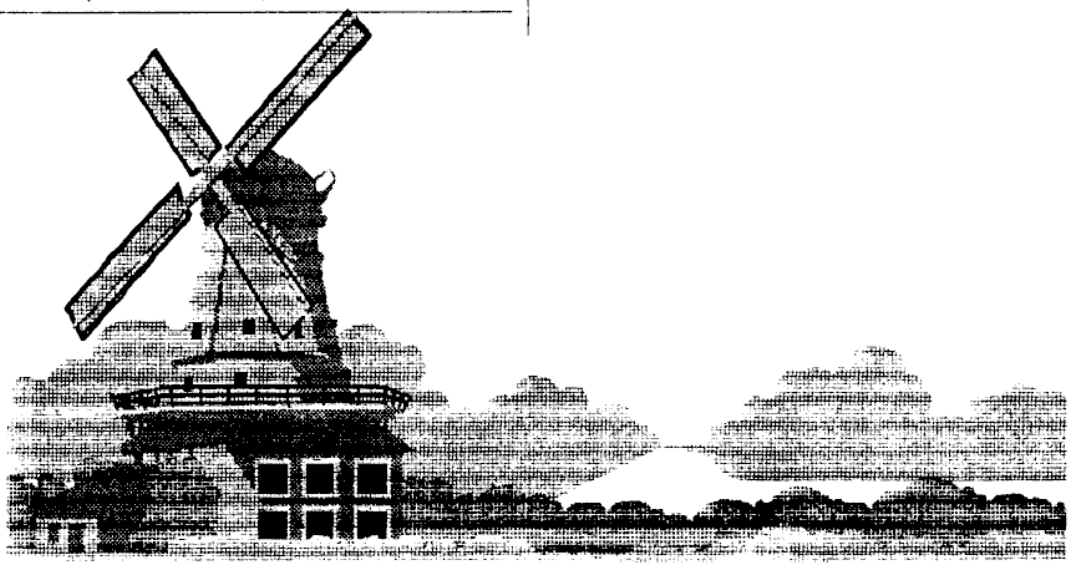

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CHRISTMAS RETURN LABEL MAKER

By **Greg Dertz & Bob Swoger**

Merry Christmas to all! It may seem like I'm jumping the gun a little by wishing you a Merry Christmas now. However, if you are like me, it will probably take you until December to get this program entered into the TS2068.

Around Christmas time, our postage bill gets very large. With all of those Christmas cards, we send a lot of mail during the months of November and December. The cost of all that mail is one thing, but having to hand write our return address on all of that mail is too much. Sure, we could go out and get some ready- made return labels, or even a rubber stamp, but those do not show the Christmas spirit. What we need is a Christmas return address label maker. That is what this program does.

This Program will make any number of return address labels on 15/16 inch pressure sensitive labels. The labels must be one-up, meaning only one across the page, and cannot be any larger than 3-1/2 inches. The text of the label is variable and entered when the program is run. In addition to the text of the label, the program also adds a small, graphically printed, picture to the label. Currently, the program has four such pictures in its library, but the program may be easily modified to add additional pictures.

The picture is printed using a graphic area of 32 X 40 dots. The picture is placed into the program using a READ - DATA statement pair in lines 250 to 260. To add additional pictures, one must change line 40 as MP=4 tells this program the number of pictures to look for. One may then add additional DATA statements containing the new encoded pictures to the end of the program.

At the top and bottom of the label is a graphic scroll which frames the label. This scroll is of a variable length and its length is calculated from the length of the text to be printed. The text itself is entered when the program is run. The text has a maximum of four lines, but blank lines may be entered if required. The first line is printed in the emphasized mode which calls attention to the line. The remaining three lines are printed compressed, which allows printing the greatest amount of information on the line. The program was written for a Legend 1080, but should also run on EPSON printers with Graph Trax 4, Legend 880, Gemini 10X or probably any FX-80 or RX-80 Epson compatible printer.

In addition to return address labels, we have also used the program to print out Christmas gift tags. We enter the four lines as follows.

This way, we now have blank, stick-on labels that may be filled out later and attached to Christmas packages.

I have written a second program that comes in handy when designing and programming the pictures. This program prints out a continuous stream of graph paper that is 40 squares wide. Using this paper, one may design the picture into decimal characters.

With these two programs, one may create any number of unique labels for any occasion.

Happy Label Mailing

I was very impressed one year when Stan Lemke printed one of my labels from one of his clients thinking that it was the result of one of his programs! It gave Greg and I a GOOD FEELING!

The program below is to be used with the LarKen DS-400 Disk Drive interface and the modified TASMAN CPI printer interface mentioned in the January 1993 issue of UPDATE! Magazine. It is not necessary to do any Peeks and POKEs into the LarKen LKDOS RAM area as this program contains the printer driver code in the line 0 REMark statement.

If you do not obtain this program from UPDATE! Magazine, you must load the code yourself into the program by making a line 0 REMark statement with 652 spaces. type in the rest of the program and save it by typing GOTO 9990. Next, load your TASMAN CPI printer driver code. Finally, execute the following program in the immediate mode:

```
FOR i=26715 to (26715+651):POKE
i,PEEK(i+38001):NEXT i
```

If the program RUNs ok, SAVE it again by typing GOTO 9990.

```
   0 REM Put your TASMAN CPI
printer driver code in this
location. Lines 5 through 7 will
POKE the code into Hi-RAM.
   4 LET PR = PEEK 23635+256*PEEK
23636:LET PR=PR+5
   5 CLEAR 64715
   6 FOR i=PR TO (PR+651):POKE (i
+38001),PEEK i: NEXT i
   7 RANDOMIZE USR 64719
  10 REM
CHRISTMAS RETURN LABEL GENERATOR
             V1.0T
           WRITTEN BY
       GREGORY A. DERTZ
              &
        ROBERT E. SWOGER
       NOVEMBER 23,1985
  40 LET MP=4
  50 DIM A$(4,36): DIM S(12): DI
M K(MP,4,40): DIM X(4)
  60 REM THIS IS THE DATA FOR TH
E UPPER AND LOWER SCROLL
  70 FOR I=1 TO 12
  80 READ S(I)
  90 NEXT I
 100 DATA 64,32,48,24,28,28,28,2
8,24,48,32,64
 110 LET LC=1
 120 CLS : PRINT "   WELCOME TO
THE CHRISTMAS"
 130 PRINT " RETURN ADDRESS LABE
L PROGRAM.",,,
 140 PRINT "I WILL FIRST ASK FOR
 YOUR NAME  AND ADDRESS(4 LINES
MAX.), THEN "
 160 PRINT " PRINT OUT THE NUMBE
R OF RETURN "
 170 PRINT "ADDRESS LABELS REQUE
STED.",,,
 180 PRINT "THE FIRST LINE OF TH
E LABEL WILL"
 190 PRINT "BE PRINTED EMPHASIZE
D, THE"
 200 PRINT "REMAINING THREE LINE
S WILL BE"
 210 PRINT "PRINTED COMPRESSED."
,,,
 220 PRINT " TO USE ME YOU MUST
HAVE LABELS"
 230 PRINT "THAT ARE 1 TO THE IN
CH AND ARE"
 240 PRINT "ONE UP ON THE SHEET.
"
 245 REM WHILE THE USER IS READ
ING THE ABOVE STUFF, START READ
ING THE DATA FOR THE PICTURES.
 250 FOR I=1 TO MP
 260 FOR J=1 TO 4
 270 FOR X=1 TO 40
```

```
 280 READ K(I,J,X)
 290 NEXT X: NEXT J: NEXT I
 300 GO SUB 900
 310 CLS : PRINT "EXAMPLE:",,,,"
MERRY CHRISTMAS",,"John, Mary, J
im, & Spot","1234 Any Street": P
RINT "This Town, IL  60000",,,
 320 REM NOW ASK FOR THE RETURN
ADDRESS INFO
 330 FOR I=1 TO 4
 340 PRINT " LINE ";I;"? ";: INP
UT G$
 350 IF G$="" THEN GO TO 365
 360 LET X(I)=LEN G$: LET A$(I)=
G$
 365 PRINT A$(I,1 TO )
 370 NEXT I
 375 PAUSE 150
 380 CLS : REM NOW ECHO THE INPU
T FOR CONFERMATION.
 390 FOR I=1 TO 4
 400 PRINT A$(I,1 TO )
 410 NEXT I
 420 PRINT : RANDOMIZE USR 64719
 430 INPUT "CORRECT? ";T$
 440 IF T$="y" OR T$="Y" OR T$="
YES" THEN GO TO 470
 450 IF T$="n" OR T$="N" OR T$="
NO" THEN GO TO 330
 460 GO TO 390
 465 REM THIS SECTION WILL NOW C
ALCULATE THE LENGTH OF THE SCROL
L BASED ON THE LENGTH OF THE LON
GEST INPUT TED LINE .
 470 LET H=X(1)
 480 FOR I=2 TO 4
 490 IF (15/27)*(X(I))>H THEN LE
T H=INT ((15/27)*(X(I)))
 500 NEXT I
 510 LET H=5+(INT ((2/3)*H))
 520 IF H>22 THEN LET H=22: REM
CHECK FOR OVERFLOW
 525 REM NOW PRINT THE LABELS
 530 INPUT "NUMBER OF LABELS TO
BE PRINTED? ";N
 540 PRINT "INSERT LABELS AND LI
NE UP THE"
 550 PRINT "FIRST LABEL.",,,,
 580 REM NOW CLEAR THE PRINTER
AND SET LINE SPACING TO 8/72 INC
H SO THAT THERE WILL NOT BE SPAC
ES BETWEEN THE LINES OF THE  PIC
TURE
 581 LPRINT CHR$ 27;CHR$ 27;"@";
CHR$ 27;CHR$ 27;"A";CHR$ 27;CHR$
 (8);
 585 REM NOW THEN PRINT ALL OF T
HE LABELS
 590 FOR Z=1 TO N
 600 PRINT "LABEL NO. ";Z,: POKE
 23692,255
 610 GO SUB 840: REM PRINT THE U
PPER SCROLL
 620 FOR L=1 TO 4
 630 LPRINT CHR$ 27;CHR$ 27;"L";
CHR$ (80);CHR$ 27;CHR$ (0);
 640 FOR C=1 TO 40: REM PRINT PI
CTURE LINE
 660 LPRINT CHR$ 27;CHR$ (K(LC,L
,C));CHR$ 27;CHR$ (K(LC,L,C));
 670 NEXT C
 680 IF L=1 THEN LPRINT CHR$ 27;
CHR$ 27;"E";: REM PRINT THE FIRS
T LINE EMPHASISED
 690 IF L=2 THEN LPRINT CHR$ 27;
CHR$ 27;"F";CHR$ 27;CHR$ 15;CHR$
 27;CHR$ (27);"G";: REM PRINT AL
L OTHER LINE S COMPRESSED
 700 LPRINT A$(L)
 710 NEXT L
 720 GO SUB 840: REM NOW PRINT T
HE LOWER SCROLL
 725 LET LC=LC+1: REM INCREMENT
THE PICTURE
 726 IF LC=MP+1 THEN LET LC=1
 730 LPRINT : LPRINT : LPRINT
 740 LPRINT CHR$ 27;CHR$ 27;"H";
: RESTORE : PRINT "PRINTED": NEX
T Z
 790 LPRINT CHR$ 27;CHR$ 27;"@";
: REM NOW DONE, SO RESET THE PRI
NTER
 800 INPUT "WOULD YOU LIKE MORE
LABELS? ";T$
 810 IF T$="y" OR T$="Y" OR T$="
YES" THEN GO TO 380
 820 IF  T$="n" OR T$="N" OR T$=
"NO" THEN PRINT "O.K. THANK YOU
FOR USING ME.": STOP : GO TO 999
8
 830 GO TO 800
 840 LPRINT CHR$ 27;CHR$ 27;"H";
CHR$ 27;CHR$ 27;"K";CHR$ 27;CHR$
 (12*H);CHR$ 27;CHR$ (0);
 850 FOR B=1 TO H
 860 FOR I=1 TO 12
 870 LPRINT CHR$ 27;CHR$ (S(I));
 880 NEXT I: NEXT B: LPRINT : RE
TURN
 900 PRINT AT 21,4;"HIT <ENTER>
TO CONTINUE "
 910 LET T$=INKEY$: IF T$="" THE
N GO TO 910
 920 RETURN
1000 REM TREE ARRAY   LC=1
1010 DATA 0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,1,7,63,255
1020 DATA 255,63,7,1,0,0,0,0,0,0
,0,0,0,0,0,0,0,0,0,0
1030 DATA 0,0,0,0,0,0,0,0,0,0,0,
```

```
0,1,3,7,79,223,255,255,255
1040 DATA 255,255,255,223,79,7,3
,1,0,0,0,0,0,0,0,0,0,0,0,0
1050 DATA 0,0,0,0,0,0,0,0,0,1,35
,239,255,255,255,255,255,255,255
,255
1060 DATA 255,255,255,255,255,25
5,255,255,239,35,1,0,0,0,0,0,0,0
,0,0
1070 DATA 0,0,0,0,0,16,48,112,24
0,240,240,240,240,240,240,240,24
0,255,255,255
1080 DATA 255,255,255,240,240,24
0,240,240,240,240,240,240,112,48
,16,0,0,0,0,0
1090 REM BELLS ARRAY  LC=2
1100 DATA 0,0,0,0,0,0,0,0,0,0,0,
0,1,3,3,7,3,0,7,7
1110 DATA 15,15,31,31,15,15,7,7,
0,0,0,0,0,0,0,0,0,0,0,0,0
1120 DATA 0,2,3,3,3,3,7,15,31,63
,127,255,255,255,255,248,7,255,2
55,255
1130 DATA 255,255,255,255,255,25
5,255,255,255,7,0,0,0,0,0,0,0,0,
0,0
1140 DATA 0,0,0,152,252,252,248,
240,248,252,254,255,255,254,241,
15,255,255,255,255
1150 DATA 255,255,255,255,255,25
5,255,255,255,255,15,1,0,0,0,0,0
,0,0,0
1160 DATA 0,0,0,0,0,0,0,0,0,0,0,
64,64,192,192,192,192,192,192,19
2
1170 DATA 192,192,192,192,192,19
2,192,216,252,252,216,192,192,64
,64,0,0,0,0,0
1180 REM STOCKING ARRAY  LC=3
1190 DATA 0,7,2,1,7,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,0
1200 DATA 0,0,0,0,0,0,0,0,1,1,29
,51,62,12,0,0,0,0,0,0
1210 DATA 0,128,0,0,128,0,60,36,
36,60,0,1,1,1,1,0,0,0,0,0
1220 DATA 0,0,0,48,44,67,135,135
,15,31,31,159,127,15,3,0,0,0,0,0
1230 DATA 0,0,0,0,0,0,0,0,0,0,0,
240,80,16,16,0,15,1,1,1
1240 DATA 0,0,0,0,0,129,227,255,
255,255,255,255,255,255,255,255,
63,12,0,0
1250 DATA 0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,0
1260 DATA 0,24,60,126,254,254,25
4,252,252,248,240,224,192,0,0,0,
0,0,0,0
1270 REM CANDLE ARRAY    LC=4
1280 DATA 0,0,0,0,0,0,0,0,0,0,0,
0,0,0,7,24,32,64,128,128
1290 DATA 131,132,136,132,131,12
8,128,64,32,24,7,0,0,0,0,0,0,0,0
,0
1300 DATA 0,1,6,8,16,32,96,96,32
,16,8,6,1,0,192,32,16,0,0,0
1310 DATA 207,47,31,47,207,0,0,0
,16,32,192,0,0,0,0,0,0,0,0,0
1320 DATA 0,192,48,12,6,2,97,33,
33,33,33,65,1,1,1,1,1,1,1,1
1330 DATA 255,255,255,255,255,1,
1,1,1,1,1,1,1,1,1,1,1,1,0,0
1340 DATA 0,0,0,0,0,0,0,0,0,0,0,
248,248,248,248,248,248,248,248,
248
1350 DATA 248,248,248,248,248,24
8,248,248,248,248,240,224,192,12
8,0,0,0,0,0,0
9991 CLEAR
9992 RANDOMIZE USR 100: SAVE "XM
SLBL.BT" LINE 1
9998 RANDOMIZE USR 100: LOAD "L.
B1"
9999 SAVE "XMSLBL.B1" LINE 1
```

Timex 2068 Emulation on a PC Using Z80

The following information describes the Timex 2068 emulator and Series One interface operation. Gerton Lunter's excellent Spectrum emulator, Z80 V2.01, is used with modified Timex and Series One Interface code to make it all work. To try it, you simply replace the ROMS.BIN file in Z80-201.ZIP with one available for free in the EMULATOR area of QBOX-USA (file area #5). Download file TX_2068.ZIP and the shareware version of Z80 v2.01. TX_2068.ZIP includes the new ROMS.BIN, an updated LAYOUT.SCR, and this DOC file. QBOX-USA is a free BBS system dedicated to the QL and other Sinclair computers. It is operated on a QL computer equipped with an IDE hardrive and a 300-14400 baud modem. The phone number is 1-810-254-9878 and it is in operation 24 hours a day. QBOS-USA is located in Sterling Heights, Michigan.

Features now available to the TIMEX 2068 emulated in Z80.

1. Microdrive Interface - up to 8 microdrives using an emulated Series One interface. CAT, FORMAT, ERASE, MOVE, LOAD *, SAVE *, VERIFY *, and MERGE * are used with the microdrives. You must enable the microdrive with the F8 key.

```
FORMAT "m";n;"name"          This must be done to create cart.
CAT n                        n = microdrive number.
LOAD **"m";n;"filename"      "m" = microdrive channel.
LOAD **"m";n;"filename"CODE x,y  Loads y bytes to address x.
SAVE **"m";n;"filename"LINE x    Auto starting program at line x.
SAVE **"m";n;"filename"CODE x,y  Saves y bytes at address x.
SAVE **"m";n;"filename"SCREEN    Saves SCREEN file.
ERASE "m";n;"filename"       Do not add CODE for binary files.
VERIFY **"m";n;"filename"
MERGE **"m";n;"filename"
```

   Read Gerton Lunter's Documentation for more detailed information.

2. Serial Port - Send/Receive (SAVE/LOAD) data/programs over the PC serial ports; LLIST/LPRINT to the PC parallel ports; and SAVE/LOAD to disk. You must set up the comm port, LPT port or disk file name with the F4 key. Some of the following must have the streams OPENed first.

```
LOAD **"b"          Load basic files from comm port or disk.
LOAD **"t"          Load text files from comm port or disk.
LOAD **"b"CODE x    Load binary file to address x.
LOAD **"b"SCREEN    Load SCREEN file from comm port or disk.
SAVE **"b"          Send basic files to comm port or disk.
```

```
SAVE *"t"          Send text files to comm port or disk.
SAVE *"b"LINE x    Save basic prog w/auto starting at line x.
SAVE *"b"CODE x,y  Send binary file to comm port or disk.
SAVE *"b"SCREEN    Send SCREEN file to comm port or disk.
LIST #3 or LLIST   OPEN #3;"t" first. Use comm, LPT or disk.
PRINT #3 or LPRINT OPEN #3;"t" first. Use comm, LPT or disk.
LIST #n            Lists program to stream n.
INKEY$ #n          Returns single character string, if avail.
INPUT #n;x         Inputs variable from stream n.
PRINT #n           Outputs print sequence (...) to stream n.
CAT #n;x           Catalog of Microdrive x sent to stream n.
```

Read Gerton Lunter's Documentation for serial port emulation/operation.

3. Design your own command - feature of the SERIES ONE interface. Machine code knowledge is required. Write me if further information is desired.

4. CLEAR # - Reset all channels to original and reclaim all memory used by the channels.

5. CLS # - Restores screen attributes to the original values.

6. OPEN #n;"x" - Links specified channel "x" with stream n. Start of basic memory moves up to make room for channels. Channels are: "m" for microdrive, "b" or "t" for serial port, and "n" for network. The network feature is not supported.

7. CLOSE #n - Unlinks any channel from stream n and reclaims memory used by it.

8. 48k snapshot save - Saves the memory state of the Timex 2068 to disk in a compressed file with a filename you select and an extension of .Z80. Note: you cannot normally load Spectrum snapshot (.Z80) files to the Timex 2068 emulator. Memory organization is similar but not the same.

Features not in Spectrum but working in the TIMEX 2068 emulation.

1. ON ERR - Traps errors and redirects program execution. Example:

```
10 ON ERR GO TO 1000
```

2. DELETE - Works like a normal Timex 2068. Used as follows:

```
DELETE ,     Deletes all basic lines from memory.
DELETE X,Y   Deletes basic lines from line X to line Y.
```

3. FREE - Prints out the available basic memory. Used as follows:

   PRINT FREE

4. RESET, RESET *, RESET #n - Works just like the normal Timex but is not very useful. Requires firmware written to take advantage of it. It could have worked much like CLOSE #n does in the Series One interface.

These functions are displayed on the new LAYOUT.SCR file in TX_2068.ZIP

All features of the Timex 2068 emulator work except:

1. STICK - Hardware support in the Z80 emulator is not available.

2. SOUND - Hardware support in the Z80 emulator is not available.

3. Access to the XROM memory and its TAPE routines cannot be done because the rom is not provided for. The same is true for the DOCK bank memory.

   This makes AROS and LROS programs unavailable as well as any of the extra VIDEO modes (normal display only). The second display file cannot be opened because the Z80 Spectrum emulator does not support it.

4. SAVE/LOAD/MERGE/VERIFY - Emulation of TAPE commands to disk is not supported. However, the tape commands can be used to load files through the parallel port only when a file named SA_LD.BIN (included in TX_2068.ZIP), is loaded to memory and you are using a registered Z80 v2.01. To obtain a registered copy, you must write to Gerton Lunter. Please read the instructions in the shareware Z80-201.ZIP file. The TAPE commands will only work in the REAL MODE and only with the parallel port connected to a tape cassette interface. Use key F7 to set up loading from the LPT port and not from DISK. The file, SA_LD.BIN, must be loaded to ram from an emulated Microdrive or Serial Port to address 25282 decimal (62C2H). The normal location of the TAPE routines is in the XROM (see #3). This file is designed to be loaded from disk as though it were from an emulated comm port (key F4, RS232 Input). Load it as CODE, from Timex basic, to address 25282 as in:

   LOAD **"b" CODE 25282. (you must include 25282 with this file)

   Save it to a microdrive file, if desired, as in:

   SAVE **"m";1;"SA_LD" CODE 25282,1330

Or, save it with the name "run" if you want it to be loaded when the keyword RUN is entered after initializing the emulator. Refer to Gerton's documentation about the save/load syntax. Again, you must use REAL mode (F6) and your emulated Timex speed must be between 100% and 110% in order to load tape programs through the parallel port (requires a fast 386 or higher). Around 105% was best on my computer.

If the SA_LD.BIN code is not loaded, any tape commmand written in basic will pass syntax. But during execution, an "Invalid I/O device" error will be generated. After loading the tape routines, the LOAD "" or LOAD "filename" will work properly as long as no code address nor length is used. If there are numbers, such as an auto starting line number, a "Nonsense in Basic" error will be displayed because the five byte floating point form of these numbers has not been added. To get around this problem, use VAL "number". To avoid this condition entirely, make sure the file, SA_LD.BIN has been loaded before using the tape commands.

One final note about "MERGE": the SA_LD.BIN file must be loaded in order to use the "MERGE" command for microdrive files or an "Invalid I/O device" error will be displayed. The microdrive "MERGE" command uses some code in the tape routines for MERGEing operations. Note: the Series One code will not allow MERGEing an auto starting basic program. In addition, I have not found the MERGE operation to be very reliable with large programs in either the Timex or Spectrum emulation.

5. The RAM RESIDENT CODE is not in memory. There is no XROM to copy it from so the space is free for the use of other code. However, this space is also used by the special tape routine, SA_LD.BIN. See #4.

6. The Timex variable, Physical RamTop (P_RAM) has been relocated to 5CCCH and the first Series One interface variable (FLAGS3) is at 5CB4H. The other Timex Series One interface variables are located starting at 6856H. In contrast, the Spectrum Series One interface variables start at 5CB6H. The Series One interface variables cause the start of Basic to move up by 58 bytes.

7. To OPEN a channel, you must use OPEN #n;"x". The letter n is the number of the channel and "x" can be "t", "b", "n", or "m". See Gerton's documentation. The important item here is that you must use a semicolon and not a comma in the command like the Spectrum allows. The Timex syntax check passes the comma, thus not paging in the interface one rom. When a comma is used, an "Invalid I/O device" error is generated by the Timex error routines and the command is never acted upon by the Series One interface.
8. The screen colors are white on blue, my personal favorite combination.

If other screen colors are needed, let me know and I will try to get you the information on how to change the code.

9. BASIC programing starts at address 26709 decimal, before enabling the Series One interface. It normally starts at 26710 in the Timex. I had to do this because of the way the Series One interface code expects memory to be organized. There is a one byte difference in length, from the start of Channels to the start of Basic, between the Spectrum and Timex computers. If I can figure out how to work around this difference, the start of basic may be changed back to 26710. The way it is now may cause problems with some programs.

   One such program may be TIMACHINE. TIMACHINE loads OK but basic programs will not load from the Series One interface. Basic programs can only be loaded from the Tape interface.

   You may run into another problem that keeps some programs from loading properly. Some programs will not load correctly if the Series One interface variables are initialized and the start of Basic is moved up to accommodate them. One such program is WINDOW PRINT 32. The solution to this is complicated but I will try to explain. To load the Tape routines, you must enable the Series One variables and extended channels. But, this is why WINDOW PRINT 32 fails to load properly. The Series One variables must be removed and the channels restored back to normal. We can do this with a NEW command but the Tape routines must be protected by loading them above RAM TOP first. Load the tape routines to address 60000 and do CLEAR 59999. Next, do a NEW to remove the Series One variables.

```
10 CLEAR 59999
20 LOAD *"m";1;"SA_LD"CODE 60000 : REM or use RS 232 redirection
30 NEW
```

   Then, using a FOR/NEXT loop, PEEK the Tape routines and POKE them back to address 25282.

```
10 LET y=25282
20 FOR x=60000 TO 61329 : REM 1330 total bytes
30 POKE y,PEEK x
40 LET y=y+1
50 NEXT x
```

   RAM TOP should be moved back up to the normal location with CLEAR 65367 or higher if desired. Once completed, the TAPE routines are back in place and the Series One variables have been eliminated. Be careful not to enable the Series One interface with a syntax error or the interface

variables will be recreated. Hopefully, you can now load the Tape program without problems.

10. OUT 244,n will cause the border to change color. Many Timex programs have this instruction written in machine code to ensure that HOME bank memory chunks are enabled during program execution. Short of changing the program code or Gerton Lunter rewriting his emulator, there is no solution for this. Note: when low, each of the 8 bits sent out port 244 enables 8k of HOME bank memory. Or, when high, each bit enables either DOCK or XROM bank memory. The DOCK bank is enabled when the value of 8 bits sent out port 255 is <128. Otherwise, the XROM bank is enabled when the value of the 8 bits sent out port 255 is >127. This memory bank switching is not available in this Timex emulation. The Z80 v2.01 emulator does not recognize port 244 and handles any OUT 244,n instruction like a border color change through port 254.

11. Most programs that I have tried have worked with this Timex emulation. That includes HOTZ and HOTZ AROS (my favorite), as long as the XROM bank, DOCK bank and ram resident code are not accessed. Of course, programs that make use of the STICK and SOUND command are not going to work.

    ARTWORX is one program that will not work properly in this emulation. There may be many others that fail to work properly but I haven't tried them yet.

    TASWORD II loads properly but I've had trouble getting the alphabet letters (strangely not the numbers) to print to the screen. Just exit to Basic with SYMBOL SHIFT "a". Next press "b" to enter BASIC and then RUN. The problem goes away.

If you can help make this Timex 2068 project better, let me know how it can be done. I personally would like to use OS-64 with this emulator but I don't have the skill to change the Z80 emulator to make it compatible with the XROM bank, DOCK bank and the two displays files. If enough USA users will become registered users of Z80, maybe Gerton Lunter will consider making his emulator fully Timex compatible.

Keith Watson
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41634 Amberly Dr
Mt. Clemens, MI 48038

LogiCall

AOS-LKDOS V5.0
An Auxiliary Operating System
and Integrated Software Package
for the LarKen Disk Operating System

WHAT Is *LogiCall*:

LogiCall is an Auxiliary Operating System (AOS) and Integrated Software Package that completes your LarKen multi-drive system. You can move from drive to drive with 2 keystrokes or less, move into and out of your word processor, database, spreadsheet, terminal program and other programs with just a few keystrokes without having to turn off your machine between programs, read WP files and put pictures on the screen without using the WP or other programs. The FORMAT, MOVE, ERASE, CAT, and VERIFY keys and KEY WORDS all work without the use of the RAND USR 100: prefix that had to be typed in with LKDOS alone. Even if you don't have a multi-drive system yet, *LogiCall* will still be of benefit to you.

Unlike operating systems which reside in the computer's RAM and take up precious program space, *LogiCall* exits the machine when a new program is LOADed in and returns when you're through with that program. Some of the *LogiCall* features are:

1.) Automatic display of disk directory. (Catalog)
2.) Asks you for the drive you wish to use next. TAPE? Sure!
3.) Asks you for the program you wish to run next.
4.) Allows you to SCAN select the program to LOAD in.
5.) Easily creates the AUTOSTART program on disk.
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13.) Easy call for running AUTOSTART.
14.) Displays SCREEN$ and decoded RLE pictures on screen.
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16.) Displays WP files to screen without use of WP.
17.) Lets you change drives at the 'Program?' prompt.
18.) Runs on MAX DOS and SPECTRUM modes.
19.) Written in BASIC to allow user customizing.
20.) Contains convenient HELP screens.
21.) No RESET switch needed to terminate programs!
22.) Keeps you informed as to current DRIVE.
23.) All of the DOS function keys work as labeled!
24.) All of this on just one block, [one disk track].

VERSION 5.2, the PROFESSIONAL VERSION of LOGICALL is now available from UPDATE! Magazine for only $15, with manual, postage paid!
UPDATE Magazine, P.O. Box 17, Mexico, IN 46958

22 AUGUST 1994

Dear Frank,

Here's a puzzler that might be of interest to UPDATE readers.
It's a 2068 program.

You'll notice glitches at (page = 2.3), (page = 9.5), and
(page = 37.8). I didn't pursue it beyond this number.

Maybe your readers can tell me what's wrong?

Best regards,
Basil

```
 100 LET page=1
 110 FOR f=353 TO 375
 150 LET page=page+.1
 160 LET panel=page-INT (page)
 165 LET panel=.1*INT (10*panel)
 250 PRINT page,panel
1000 NEXT f
```

1.1	0.1	7.7	0.6	36.3	0.3
1.2	0.2	7.8	0.7	36.4	0.4
1.3	0.3	7.9	0.8	36.5	0.5
1.4	0.4	8	0.9	36.6	0.6
1.5	0.5	8.1	0	36.7	0.7
1.6	0.6	8.2	0.1	36.8	0.8
1.7	0.7	8.3	0.2	36.9	0.9
1.8	0.8	8.4	0.3	37	0
1.9	0.9	8.5	0.4	37.1	0.1
2	0	8.6	0.5	37.2	0.2
2.1	0.1	8.7	0.6	37.3	0.3
2.2	0.2	8.8	0.7	37.4	0.4
2.3	0.2	8.9	0.8	37.5	0.5
2.4	0.3	9	0.9	37.6	0.6
2.5	0.4	9.1	0	37.7	0.7
2.6	0.5	9.2	0.1	37.8	0.7
2.7	0.6	9.3	0.2	37.9	0.8
2.8	0.7	9.4	0.3	38	0.9
2.9	0.8	9.5	0.5	38.1	0
3	0.9	9.6	0.6	38.2	0.1
3.1	0	9.7	0.7	38.3	0.2
3.2	0.1	9.8	0.8	38.4	0.3
3.3	0.2	9.9	0.9	38.5	0.4

To: All XTender Users
Concerns: Release of ZX81TAPE

Steenbergen, October 1994

Dear XTender User,

First of all, I would like to inform you that the development of XTender (the ZX81 emulator for MS/DOS) has been somewhat slackened in the past one-and-a-half year due to personal circumstances. If you're a registered user, please consider this letter as the prove that your registration is still administrated and that you will receive (information about) any new releases of XTender in the future. *Please inform me when your address has changed!*

Secondly, I am pleased to tell you that the long-awaited ZX81TAPE utility is now available. ZX81TAPE allows you to convert your own ZX81 programs from cassette tape to MS/DOS files. ZX81TAPE generates P-type files that can be loaded directly into XTender (and also into most ZX81 emulators for other computer systems, e.g. QL and Atari). All you need is a simple DIY interface to connect a tape-recorder to the COM-port of your PC and some specially developed software. ZX81TAPE converts whole tapes at once – without any user intervention. The ZX81TAPE disk contains this software, as well as text files that explain how to build the DIY interface and how to use the software.

At this moment, the precise status of the ZX81TAPE utility is still indefinite. It may become part of the shareware version of XTender, perhaps it will be available to registered users only, or it may even become a separate package that can be ordered both by registered and non-registered users.

Anyway, if you wish to obtain a copy of the ZX81TAPE disk, you can order it *right now!* To order, please send a note with your name and address, mention the text 'ZX81TAPE' and include one of the following payments: (a) a EuroCheque worth NLG 15, or (b) NLG 15 in cash, or (c) DM 15 in cash, or (d) UK £7 in cash, or (e) US $ 10 in cash, or (f) 11 IRCs. (Unfortunately, payments other than the ones mentioned here cannot be accepted and will be returned.) Upon receipt of payment, the ZX81TAPE disk will be dispatched to you.

I look forward to hearing from you soon!

Kind Regards,

Carlo Delhez
Emmastraat 3
4651 BV Steenbergen
Netherlands

T/SNUG Information

T/SNUG

Here is the list of T/SNUG Chairmen and how to contact them. We wish to support the following SIGs:- ZX-80/81, TS-1000, SPECTRUM, TS-2068, TC-2068, Z88 and QL. If you have any questions about any of these fine machines, contact the:

Chairman

Chief Motivator
Donald S. Lambert (ISTUG)

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R 415 Stone St.
Johnstown, PA 15906
814 535-6998

Z-88
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Lemoyne, PA 17045
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Treasurer

Editor & LarKen PD Library
Abed Kahale (CATUG)
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Hoffman Estates, IL 60195-3106

ZXir QLive Alive!

Is the newsletter of T/SNUG, the Timex/Sinclair NorthAmerican User Groups, providing news and software support to the T/S community in a **volume** of four newsletters per year, beginning with the Spring (April) issue.

T/SNUG's main goal is to keep our Magazine, our vendors and our repair service alive for the benefit of T/S users. These valuable services shall have free advertising space in this user supported Newsletter that they can see that we are still active out here. We must support their services whenever possible.

Another T/SNUG goal is to unearth titles of all known Public Domain and commercial software available for all Timex/Sinclair machines, building a library and providing lists of that software showing both the source and the availability.

We encourage your group to copy this newsletter and distribute it at your regular meetings to all your members. If you cannot copy this newsletter, a disk can be provided with the articles for use in your newsletter.

If you feel T/SNUG should perform other tasks, let us know your feelings. If you have solved a problem in one of your software or hardware, please share it with the rest of us.

You can keep T/SNUG alive by an annual contribution of $12 for one **volume** made payable to Abed Kahale. Send check to:-

ABED KAHALE
335 W NEWPORT RD
HOFFMAN ESTATES IL 60195-3106

Phone:- 708 885-4337

Back Newsletter copies are available for 50¢ each postpaid.

Article Contributions

Send in your articles by tape or disk and your inputs to:-

DON LAMBERT
ZXir QLive ALive! Newsletter
1301 KIBLINGER PL
AUBURN IN 46706-3010

Phone 219 925-1372

Or by hardcopy, mail to:- Abed Kahale. (Address on this page)

GATOR's TWISTED PAIR

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When you call-in the next time, you will have Level 5 security and be able to enjoy full user privileges. The BBS has smaller sections called conferences. Select 'J' for 'Join a Conference' to see the different user groups. Select "TIMEX" to get into the Sinclair Section. The mail you then read will only be from other TIMEX Sinclair users but all SIGs share the same bulletins. Use extension .ART for articles, .ADS for ads and .NWS for news when uploading.

Download articles appearing in this newsletter having .ZQA extension.

For help, contact the SYSOP by leaving a message, mail, E-mail or phone.
Bob Swoger, SYSOP --==GATOR==--
(Address & Phone to the left of page)

A FINANCIAL PROGRAM FOR THE SINCLAIR QL

By
Wood and Wind Computing : Bill Cable : RR3 Box 92 : Cornish NH 03745 : USA
Phone : (603) 675-2218

For the first time you have the capability of keeping complete and accurate financial records for the Home or Small Business with your QL. A friendly Financial Clerk to serve you. The code is written in the ARCHIVE Programming Language and is completely accessible to the user. All functions are selectable from standardized menus. No knowledge of ARCHIVE is required. The program works from a common sense point of view without imposing accounting theory on the user. Although it has many powerful features the user can use only those features desired, ignoring the rest. Recommended minimum system is a Trump Card with 2 DD Drives. It works much faster on Gold Cards and Super Gold Cards. Latest Version is 3.21. **Great for Tax Records. Order it today so you have plenty of time to be ready for the IRS on April 15.**

PRICING

Public Domain Demonstration Version of QLerk (refundable with QLerk order)	$5.00 US/Canada	$7.00 Elsewhere
QLerk Program on Disk with Tutorial Doc File	$29.00 US/Canada	$31.00 Elsewhere
QLerk Manual (150 pages of details)	$29.00 US/Canada	$34.00 Elsewhere
QLerk Program with Tutorial and QLerk Manual	$50.00 US/Canada	$57.00 Elsewhere

MIRACLE IN OAK RIDGE TENNESSEE

On June 10, 1995, we will be attending the 3rd Miracle show to take place in North America. The last two fun filled events were held in Newport, Rhode Island. This year to give Bob Dyl (the show organizer) a bit of a break, and to give folks in the Midwest and South a better chance at attending the show, it will be held in Tennessee. The host for the show will be the family of Mel Laverne, who lives in the area. It will be on Saturday, June 10, 1995, at the Faith Lutheran Church, 1300 Oak Ridge Turnpike, Oak Ridge, Tennessee. For more information contact Bob Dyl, 401-849-3805.

UPDATE Magazine, Mechanical Affinity, Miracle Systems, Quanta Librarians, and IQLR are definites to be there. I have also been told that TF Services from the UK will be there and possibly Jochen Merz. More in the next issue!

CABLE COLUMN

By Bill Cable

ARCHIVE SERIES
PART 19 : USING KEYS TO LINK DATABASES TOGETHER AND OTHER HANDY TRICKS

We will take a little break from the rather involved listings of the past few columns and look at some database ideas and techniques not yet covered in this series. Even those not following the whole series can easily participate in this part. We will explore how to keep a specific kind of information in a database and quickly be able to find each record by using a 'key'. This technique will allow us to have one database 'linked' to another so we can access useful information from both at the same time. In fact we will set up a 3 level example. We will create a subscription database which has a key to an address database which has a key to a country database. Whenever we access a subscription record we will automatically also access the address information of the subscriber and the country information of the subscriber.

In database systems it works best to keep specific kinds of information in their own independent databases. Like putting addresses in a well defined address database or products to be bought or sold in a well defined product database. That way the fields needed to describe each item can be carefully set up and all entry and maintenance of the information can be done in one place. Then whenever you need information about a particular item in that database you just reference the needed record by a key and don't have to duplicate the information already there. Of course if the information is not yet in that database you will have to be able to add it 'on the fly'. Besides the fields needed to properly describe each item in such a database a special field is needed that will uniquely identify each record. This special field is called a 'key' or 'code'. Each key will point to the unique record it identifies in an easily understandable way so the user can quickly find the information when desired. The database will be ordered (sorted) by this key and in ARCHIVE we will use the 'locate' command to find the record from the key. When a field is ordered in ARCHIVE only the first 8 characters of the field are used and the rest are ignored. Up to 4 fields can be ordered but we want to work with only our key field and so will only order the one field. This means that the key can only use up to 8 characters. This is really no problem because we want our key to be simple to use and anything longer than 8 characters starts to become to complicated anyway. So our basic premise is that we will have a field in our database that will be up to 8 characters long and each entry in that field will be a unique set of characters that we can easily remember and it will be used to locate that record. The key needs to be unique because in the type of linking we will be using we want it to unambiguously locate just one record.

Since we want addresses that span different countries for out subscription example we will use the following fields types :

Field #	Field Description	Field Name
0	Address Code	acode$
1	Creation Date	date$
2	Last Name or Company	name$
3	First Name	fname$
4	Street 1	street1$
5	Street 2	street2$
6	City	city$
7	State/County/Province	stcypv$
8	Postal Code	postcode$
9	County Code	ccode$
10	Phone	phone$
11	Note	note$

The Field Number starts at 0 to be consistent with ARCHIVE convention. The Field Names end in '$' since they are all text fields. More fields could be added but I would consider this to be a minimum. I included a date field as it often turns out to be very useful to know when a record was created. If the address is for a person then the last name would be in the name$ field and the first and middle name would be in the fname$. If the address were for a company then the whole company name would go in the name$ field and the fname$ field would be ignored. The 7th field will hold the State or County or Province depending on the country. Don't confuse County and Country.

When we need an address we usually already know the name of the person or company in the address so the key should somehow work off the name. You might think we could use the name$ field as the key. But there are problems with this. Names can be longer than 8 characters which would be too long for our key. Also names are not unique. There could be more than one 'Smith' in our database. Even including first name and middle name would not eliminate the possibility of duplicate names. And some people own 2 homes and so have 2 different addresses under the same name. Also since names contain both upper and lower case letters and an 'a' is totally different than an 'A' in ordering we would have to worry about getting the case right when specifying a key.

So the first field, Address Code (acode$), has been added to be the 'key' field which can be used to quickly and precisely locate any particular address. Whenever an entry is made into the address database a unique Address Code would be defined so we could thereafter easily locate the address. But what should the rules be for defining each key? That is up to the user since the user is

the one who has to use the key. But if the key is chosen without following any rules then it becomes very hard to locate an address later because there is no pattern to follow. When trying to locate an address one misplaced character in a key for a large address database will miss finding the right address. The rules for making a key should be simple and each key has to be unique. In my accounting program for the QL, QLerk, I suggest the following method for keys in an address database :

1. For a person take the first five characters of the last name and then a comma and then the first and middle initial (if any). So 'Clive Sinclair' has the key - 'sincl,c'.
2. For a company take the first character of each word of the company name and those in upper case and then fill out the rest (up to 8 characters) with the other characters in the last word of the name. So 'Cornish Automotive' has the key - 'cautomot'.

Only lower case is used in the key and a maximum of 8 characters are used. If a key has already been defined for another address like the one you wish to assign to a new address then you would have to manually make a change to the new key so it will be slightly different from the key already defined like putting a '2' as the last character of the key. I have found this to be a very good way to create keys for an address database even if more than one person uses the same database. But it is best if the user can define their own keys and even in QLerk the user has final say. So in my example here I will use the above rules for the address keys but you are free to do whatever you like.

Have you ever called up a company that has you on their mailing list and they needed a customer number to find you? If you didn't have it handy you were out of luck because they used a sequential numbering system for keys. Since the key had no relationship to you it could not be guessed at. Now many mail order companies use keys working off phone numbers or zip codes and name. So they can find you from the information you can give them. Using a sequential number as a key is not very useful since the number has no meaning in itself and if we don't have it then we won't be able to find the record we want.

Also notice I included a field called Postal Code (postcode$) since most countries have some internal postal coding system and it needs to be included with the address. We could have a database of postal codes and then we could omit the State/Province/County field and the City field since they are both known if the postal code is known. It would be hard to put together a complete international postal code database but within the USA we can easily understand how a Zip code database could be handy and indeed many address database systems include a zip code database so the state and city do not need to be entered by the user. This makes data entry faster and more reliable.

Also notice I included a field called Country Code (ccode$) instead of the country name. The example we are developing here uses the countries in the gazet_dbf as the country database and we will define a key which will point to the country information. The key will link our address database to the country database so we will have all the country information automatically available to us for each address.

We actually got a little ahead of ourselves because it is best to start at the lowest level of the linking process. We will link the country database to the address database which will be linked to the subscription database. So we need to first create out country database then our address database and then our subscription database. We will have to do a little ARCHIVE programming to create a new version of the gazet_dbf database (we will call it gazet2_dbf) that includes an extra key field.

Our new country database (gazet2_dbf) will be identical to gazet_dbf except we will at a Country Code field to be our country key. So it will look like this :

Field #	Field Description	Field Name
0	Country Code	ccode$
1	Country Name	country$
2	Continent	continent$
3	Capital City	capital$
4	Languages Spoken	languages$
5	Currency Name	Currency$
6	population in millions	pop
7	Gross Domestic Product	gdp
8	Area in sqkm	area

Notice that we have 3 numeric fields (pop,gdp,area) and the only new field is the Country Code (ccode$). We will get all our information from the current gazet_dbf except for the Country Code for which we will construct from the Country Name and then manually change the few problems that arise. The rule for the Country Code will be the first 5 characters of the Country Name unless the Country has two words or more in the Name and then we will use the first letter of each word and fill out the rest (up to 5 characters) with the last word of the Country Name.

PREPARATION

Start ARCHIVE in your customary way so you see the ARCHIVE command prompt (>). We will assume all files are on flp1_. Have disk with a copy of gazet_dbf on it in flp1_. What to type will be given exactly as it should be typed including the <ENTER>. Coments will be in {}.

CREATING GAZET2_DBF

At the ARCHIVE prompt type the following to create the gazet2_dbf which has the same fields as gazet_dbf plus an extra field for Country Code (ccode$) :

```
create 'flp1_gazet2'<ENTER>          {start create}
ccode$<ENTER>
country$<ENTER>
continent$<ENTER>
capital$<ENTER>
languages$<ENTER>
currency$<ENTER>
pop<ENTER>
gdp<ENTER>
area<ENTER>
<ENTER>                              {end create}
close<ENTER>                         {close file}
```

This created the gazet2_dbf on flp1_. We closed it and it currently has no records.

Now let us start the ARCHIVE editor and create a procedure which will add the records of gazet_dbf to gazet2_dbf. I automatically create the Country Code from the first 5 characters of the Country Name field.

```
edit<ENTER>                          {start editor}
transfer<ENTER>                      {procedure name}
look 'flp1_gazet' logical 's'<ENTER> {lines of procedure}
open 'flp1_gazet2' logical 't'<ENTER>
use 's' : first : use 't'<ENTER>
while not eof('s')<ENTER>
let ccode$ = lower(s.country$)<ENTER>
if len(ccode$)>5 <ENTER>
let ccode$ = ccode$(1 to 5) : endif<ENTER>
let country$ = s.country$<ENTER>
let continent$ = s.continent$<ENTER>
let capital$ = s.captial$<ENTER>
let languages$ = s.languages$<ENTER>
let currency$ = s.currency$<ENTER>
let pop = s.pop<ENTER>
let gdp = s.gdp<ENTER>
let area = s.area<ENTER>
append<ENTER>
next 's'<ENTER>
endwhile<ENTER>
close 's'<ENTER>
order ccode$;a<ENTER>
<ESC>                {exit adding lines to procedure}
<ESC>                {exit ARCHIVE edit}
transfer<ENTER>      {start procedure}
```

If a problem occurred with the transfer procedure then you will have to first make sure files were not left accessed by typing : close<ENTER> and close<ENTER>. Now delete gazet2_dbf in case a record got added to it by : kill "flp1_gazet2_dbf"<ENTER>. Now create it again as above then use the editor to correct the mistake in your procedure and try again until you get no error.

We now have our new country database and it is still open. To make the Country Code conform to our rules we have to do a little work on the ones not yet right. I'll give my fixes :

```
display<ENTER>
locate 'aus' : let ccode$='ausla' : update <ENTER>
next : let ccode$='austr' : update<ENTER>
locate 'cape' : let ccode$='cvisl' : update<ENTER>
locate 'centr' : let ccode$='carep' : update<ENTER>
locate 'costa' : let ccode$='crica' : update<ENTER>
locate 'domin' : let ccode$='drepu' : update<ENTER>
locate 'el' : let ccode$='esalv' : update<ENTER>
locate 'eq' : let ccode$='equin' : update<ENTER>
locate 'ger' : let country$='GERMANY' : update<ENTER>
next : delete <ENTER>
locate 'gui' : next : let ccode$='gbiss' : update<ENTER>
locate 'hong' : let ccode$='hkong' : update<ENTER>
locate 'ivory' : let ccode$='icoas' : update<ENTER>
locate 'kor' : let ccode$='nkore'
let country$ = 'NORTH KOREA' : update<ENTER>
locate 'kor' : let ccode$='skore'
let country$ = 'SOUTH KOREA' : update<ENTER>
locate 'new' : let ccode$='nzeal' : update<ENTER>
locate 'niger' : next : let ccode$='nigia' : update<ENTER>
locate 'pap' : let ccode$='pngui' : update<ENTER>
locate 'puert' : let ccode$='prico' : update<ENTER>
locate 'saud' : let ccode$='sarab' : update<ENTER>
locate 'sier' : let ccode$='sleon' : update<ENTER>
locate 'south' : let ccode$='safri' : update<ENTER>
locate 'sri' : let ccode$='slank' : update<ENTER>
locate 'u.s.a' : let ccode$='usame' : update<ENTER>
locate 'u.s.r' : let ccode$='ussre' : update<ENTER>
locate 'unite' : let ccode$='uaemi' : update<ENTER>
locate 'unite' : let ccode$='uking' : update<ENTER>
locate 'upper' : let ccode$='uvolt' : update<ENTER>
locate 'yem' : let ccode$='yarep' : update<ENTER>
locate 'yem' : let ccode$='ypdr' : update<ENTER>
locate 'mauri' : next : let ccode$='maurs' : update<ENTER>
close <ENTER>                {done with changes}
```

Kind of a job to get all the codes set up but still much easier than doing it all from scratch. You might disagree with a few of the choices that don't conform exactly to the rule but you can do what you like. Now you can reliably find any country in the world by typing from 1 to 5 characters. Try it and see that it is easy :

```
look 'flp1_gazet2' logical 'g'       {access for looking}
display<ENTER>
locate 'uk'<ENTER>
locate 'usa'<ENTER>
locate 'sl'<ENTER>
locate 'can'<ENTER>
locate 'nk'<ENTER>
close<ENTER>
```

We now have the country database ready to go. Next time we will continue by creating the address and subscription databases and design a screen with sedit to display all 3 databases at once. Until then, Happy Archiving!

WE WISH IT WAS SUMMER

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Quanta	Pointer Stuff
QBox Sysop	Emulators
Spectrum	Spectrum/2068
Netmail	Private

If you like the 2068 but use a PC, we have a Timex 2068 emulator available for download.

WANTED OR FOR SALE

These ads, for sale or wanted, are available free for those who subscribe to UPDATE! Magazine. They must be of a Sinclair or Z88 nature or a peripheral that may be used for them. Use these ads also to solicit help on a project or to help you sort out a hardware or software problem. They are for your use. They offer a good resource for the Sinclair and Cambridge community.

1) WANTED: Interested in buying new or used Larken disk interfaces for the TS2068. Contact: Bob Swoger, 613 Parkside Circle, Streamwood, IL 60107. Also contact me if you are interested in joining a TS user group that is still growing and has been around for a number of years.

2) WANTED: magazines-Timex Sinclair User #2 & #5, T-S Horizons #1, 2, 7, 11, and all after #16. SQ (Syntax Quarterly) all after Vol. 2, #2. Also, software for TS1000-German tutors- conversational German (Sinclair Research Ltd.), Der Student (J.W. Collins), German Tutor (Creitech) or similar programs. 2068 software- Machine Code Tutor for the TS2068, 2 cassettes (Knighted Computers) or similar. Contact: Doug Wagoner, E. 4825 St. Anthony Lane, Post Falls, Idaho 83854-8812.

3) FOR SALE: Okimate 20 with Atari St. "Plug 'N Print" package. Comes with extra ribbons (both color and black & white). $65. Contact: Tim Swenson, phone 513-233-2178.

4) WANTED: Any screen dumps, drivers, or programs for using the radio shack CGP-115 Color Graphics Printer (4 pen plotter) with the TS2068. Can be tape, JLO, or Larken. Also wanted: PC Magazine, Volume 3 Number 23 (Nov. 27, 1984 ??). Contact: D.G. Smith, R.415 Stone St., Johnstown, PA 15906-1609. Phone 814-535-6998

5) FOR YOUR INFO: Courtesy of A.E. Green. "I have heard that no one can get the 2 amp voltage regulators that the Brits use in their QL here in the States. Wrong, I have had a 2 amp in my QL since day one, NTE 1934 case style B38 (much larger than the original reg.). I have replaced this with a LM 323AT. This device is rated at +5 volts, @3 AMPS and is a direct replacement for the 7805 1 amp reg. Available from J.D.R. Microdevices, 2233 Samaritan Dr., San Jose, CA 95124. Price $2.75 ea."

6) FOR SALE: for the QL Metacomco C (ROM cartridge and MDV cartridge only) for $20; Sandy CPM Emulator ROM Cartridge for $15; also plug in cartridges for Toolkit 2 and Q-Flash for $20 each. For the TS2068: 2 A&J 2000s with 3 cartridges for only $25 each. Also spare A&J microdrive cartridges for the 2000 and the 1000 for $2.50 each. Contact: Paul Holmgren, 5231 Wilton Wood Ct., Indianapolis, IN 46254. Also contact me about do-it-your -selfer disk drive set ups!

6) CONSULTING AVAILABLE: Contact Rod Gowen for professional (fee charged) help with your computer problems (use his experience to your advantage and keep this valuable resource available). Rod Gowen of RMG, phone 503-655-7484.

7) FOR SALE: Foote Printer Interface that fits in the dock port of the TS2068, no driver with it, for $25. Also Aerco Printer Interface, one for the TS2068 and one for the TS1000, for $25 each. Also for sale, JLO kit for 4 slot motherboard for the TS2068 for $30. And last, but not least, SPEM (Italian made) full page scanner for the QL, fitted on a printer body, with manual and software for $90. Contact: Frank Davis, 513 East Main St., Peru, IN 46970 USA.

SIN_QL_AIR

National Dutch QL-Users club

INTERNATIONAL QL MEETING

in Eindhoven/Netherlands on March 4th 1995

This meeting is entirely dedicated to the QL and QDOS (but of course Minerva, SMS2 and SMSQ/E are also welcome!). It will be possible to give and become information, to exibit private projects and commercial products, to ask for assistance at individual problems, to get in touch with and meet personally other QL fans an have a good time with a lot of fun and enthusiasm. So QL users, userclubs, dealers and programmers in Europe..... We invite you ALL to join us.

City : Eindhoven, Southern Holland
Street : Roostenlaan 296
Building: St. Joris College (a school)
Date : March 1995, 4 th, Saturday
Time :10 a.m. (10.00) - 5 p.m. (17.00)

Admission : FL 3,50 pp (incl. free drink!)
Tables for commerc. use FL 15,- a table (2m)
Organizer : SIN_QL_AIR Dutch QL User Club
c/o J.J. v.d. Molengraaf, Mullerweg 17,
5624 JC Eindhoven, Netherlands
Tel: 31-40-442309. (local arrangements, local organisation).

Information:

Sjef van de Molengraaf, Mullerweg 17, 5624 JC Eindhoven Netherlands, Tel: 31-40-442309

Jan Bredenbeek, Diependaalselaan 255, 1214 KD Hilversum Netherlands, Tel: 31-35-239758
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ZX80, Micro-Ace; ZX81; TS1000, 1500, and 2068; QL, Z88
Alex. F. Burr, K5XY, Publisher
2025 O'Donnell Drive
Las Cruces, NM 88001

SINCLAIR LOTTO SIMULATOR

originally done for the TS2068 by G. Mockridge, converted to QL by Mark Wahl

```
1988 Aug 04 15:08:03
ram1_sys_bt2_tmp
100 REMark 880804.145825;; Lotto
5_bas;; converted by Mark Wahl f
rom a program for the TS2068 by
George Mockridge..
110 WINDOW 256,256,256,0
120 WINDOW #2;256,200,0,0:PAPER
#2;0:CLS #2:CLS #0
130 REMark Program by George Moc
kridge 6/88
140 LET c$=FILL$(" ",32):DIM tru
e(50)
150 LET BP=0:CLS:welcome:main_pr
og
160 DEFine PROCedure welcome
170 AT 0,9:PRINT "Welcome to the
 "
180 PRINT "      Sinclair Lotto S
imulator"
190 END DEFine
200 DEFine PROCedure main_prog
210 AT 3,0:PRINT "On June 4,1988
 Lotto fever hit"\"CA.  The jack
pot reached over"\"$50 MILLION.
 Could YOU have won?"\"Play SLS
and see.  All you need"\"is a QL
, time & L U C K"
220 INPUT #0;"PLEASE ENTER YOUR
FULL NAME:";n$
230 buy_tickets
240 REPeat looping
250 get_numbs
260 disp_results
270 END REPeat looping
280 END DEFine
290 DEFine PROCedure buy_tickets

300 AT 19,0:PRINT "How many $1 t
ickets do you want ":AT 20,0:PRI
NT "to buy for each twice-a-week
"\" drawing  (ENTER 1-5)":INPUT
plays:plays=INT(plays)
310 IF plays<1 OR plays>5 THEN G
O TO 300
320 CLS:GO SUB 170
330 DIM p(5,6): FOR i=1 TO 5: FO
R j=1 TO 6:p(i,j)=0:NEXT j:NEXT
i:DIM r(6): LET n=0:NETi=0:pick3
=0:pick4=0:pick5=0
340 FOR i=1 TO plays
350 AT 16,0:PRINT "You may now p
ick 6 different"
360 AT 17,0:PRINT "no.s between
1 and 49 for play ";i
370 FOR j=1 TO 6
380 AT 21,0:PRINT "ENTER PICK NO
. ";j
390 INPUT p1:p1=INT(p1)
400 IF p1<1 OR p1>49 THEN GO TO
390
410 FOR k=1 TO 6
420 IF p1=p(i,k) THEN GO TO 390
430 NEXT k
440 LET p(i,j)=p1
450 AT 19,j*3-3: PRINT p(i,j)
460 AT 16,19: PRINT "Different":
 AT 17,5:PRINT "between"
470 NEXT j
480 AT 3,0: PRINT n$: FOR k=1 TO
 6:AT i+4,0: PRINT "Your play";i
;" #'s";: AT i+4,12+k*3:PRINT p(
i,k):NEXT k
490 NEXT j
500 AT 19,0:PRINT c$:NEXT i
510 AT 16,0:PRINT c$:AT 17,0:PRI
NT c$:AT 21,0:PRINT c$
520 END DEFine
530 DEFine PROCedure get_numbs
540 AT 21,0:PRINT "(s) STOP (b)B
EEP ON/OFF"
550 IF INKEY$="s" THEN BEEP 1000
,1:STOP
560 IF INKEY$="b" THEN BP=ABS(BP
-1): BEEP 100,1
570 AT #2;0,0:PRINT #2;c$;c$;c$;
c$
580 FOR k=1 TO 6: LET r(k)=0
590 REMark RANDOMISE
600 FOR k=1 TO 6
610 LET r1=INT(RND*49)+1: REMark
 to see a win sequence, change 4
9 to 6 and choose numbers 1 to 6

620 FOR l=1 TO 6
630 IF r1=r(l) THEN GO TO 610
640 NEXT l
650 CSIZE #2;2,1:AT #2;0,(k-1)*3
:PRINT #2;r1:CSIZE #2;0,0
660 LET true(r1)=true(r1)+1:LINE
 #2;r1*2,0 TO r1*2,true(r1)
670 LET r(k)=r1:NEXT k
680 AT plays+5,0:PRINT "Winning
no.s": AT plays+5,15:PRINT c$:FO
R k=1 TO 6: AT plays+5,k*3+12:PR
INT r(k);:NEXT k
690 END DEFine
700 DEFine PROCedure disp_result
s
710 FOR i=1 TO plays
```

```
720 LET c=0
730 FOR k=1 TO 6
740 FOR j=1 TO 6
750 IF r(k)=p(i,j) THEN c=c+1:GO
 TO 770
760 NEXT j
770 NEXT k
780 IF c=3 THEN pick3=pick3+1:NE
Ti=NETi-5
790 IF c=4 THEN pick4=pick4+1:NE
Ti=NETi-50
800 IF c=5 THEN pick5=pick5+1:NE
Ti=NETi-5000
810 NETi=NETi+1: AT plays+7,0:PR
INT "You have now wagered $";pla
ys;" twice a":AT plays+8,0:PRINT
 "week for ";INT (n/104);" years
, and ";INT((n-INT(n/104)*104)/2
);" weeks.":AT plays+9,0:PRINT "
Your net cost is "
820 IF NETi<0 THEN AT plays+9,9:
PRINT "win "
830 AT plays+9,17: PRINT "$";ABS
(NETi)
840 AT plays+11,0:PRINT "3/6 mat
ches(pays $5)=";pick3\"4/6 match
es(pays $50)=";pick4\"5/6 matche
s(pays $5K)=";pick5:IF c=6 THEN
win_big:STOP
850 IF c>2 AND c<6 AND BP=0 THEN
 FOR k=1 TO c:BEEP 300,k*k: AT 0
,0:PRINT c$;\;c$:NEXT k
860 NEXT i
870 n=n+1
880 END DEFine
890 DEFine PROCedure win_big
900 AT 4,0:PRINT "YOU WIN  $50 M
ILLION  YOU WIN"
910 AT 21,0:PRINT "Press any key
 to turn off the alarm."
920 BEEP 0,200:BEEP 0,100
930 IF INKEY$="" THEN GO TO 920
940 BEEP:PAUSE 25:AT 19,0:PRINT
"Who is best? Make a screen copy
. "\"Mail to TIMELINEZ PO BOX 13
12"\"PACIFICA, CA 94044 - Be Hon
est"
950 PAUSE
960 END DEFine
```

DISK MATE 4 by Roy Arwood

Most of you will recall a company out of Norway called NASA, known for some games and a program called Disk Mate. I had bought Disk Mate some while back, and recently noticed an ad for Disk Mate 4 in IQLR, as well as a review. It seemed worth while so I decided to get the new version. It is my firm belief that over the years I have been through every disk file handling program ever wrote for the QL. This is indeed one of the better ones. By the way, NASA seems to be no more, it is now called PM DATA. And for those now looking for the program, it can be obtained from Mechanical Affinity in North America, someplace out in the Midwest called Indiana (are there some Indians there?). Anyway see their ads in IQLR and UPDATE to find out how.

I was torn between which is now my favorite disk utility program, Ergon Development of Italy's Disk Utilities or Disk Mate 4. Both are extremely well done programs. Perhaps it is that they both do the same thing by going at it another way that intrigues me. On Disk Mate I found that the selecting of Disk Information I got the most data ever about the files on a disk. It can be used with the mouse or the keyboard, and is Pointer Environment driven as do almost all QL programs today. What do you find on the menus?: Directory, Disk information, Format, Write Directory, Quit (of course) and Sector Copy Disk. It works with all common disk formats and with HD and ED disks as well as DSDD.

There are several other menus on the disk besides those above. With them you can do many things such as rescue disks, convert from MDV to disk, place your files into groups and sort from there, as well as use directories and trees. Try this one and be surprised.

QL NEWS AND VIEWS by Eliad Wannum

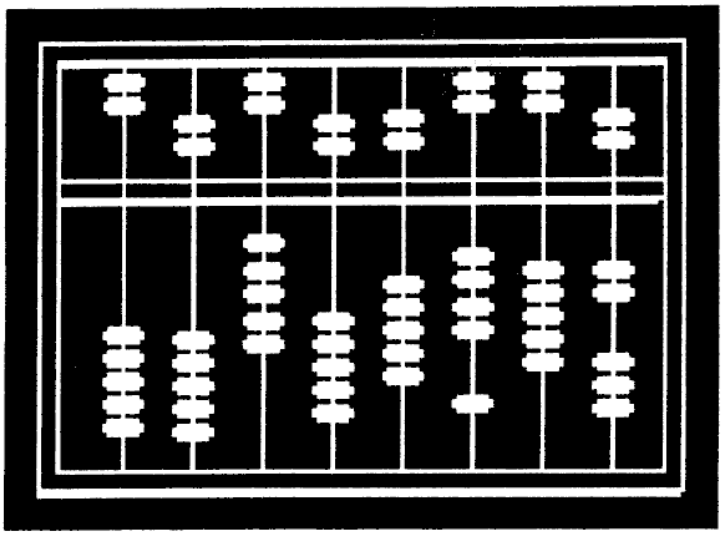
Welcome back to my column. I find this always a refreshing change from the world of mental health. For those who do not know me, I am a practicing and a counseling Psychologist. I spend a lot of time either with patient, on the road, or in the air from my New York office to Indiana University in Bloomington, Indiana. The later seems to be most known for Bobby Knight of I.U. basketball fame. Next to my love of unraveling the mysteries of the human, and animal mind, is my love affair with Sinclair computers. I have had all of them, from the ZX80, ZX81 kit, TS1000, TS1500, TS2068, Spectrum 48K, several QLs, and of recent a Z88. The only one I never bought with the Sinclair name on it was the IBM clone Amstrad tried to palm off as a real Sinclair. Do you folks know that Amstrad is out of the picture now on the QL? Yep!!!!

Frank and I have been friends for many years. We both met while we were undergraduate students majoring in psychology at Indiana University back in the mid sixties. He too spent a number of years as a counselor, before he got mixed up working for the government, and now in computers.

Now to the main gest of this article. WHAT IS NOW HAPPENING IN THE WORLD OF QL COMPUTERS? Is there anything new we should know about. Yep, there sure is. For those who do not recognize the programs being used to write this article: Text87 Plus4 to do the text, graphics & ***fonts*** from **Linedesign** and *Publishers Pack* to tie them all together in one package. There are now hundreds of fonts available for this set of programs, and these are all available from Progs of Belgium, Software87 of UK, or from Mechanical Affinity of the USA. Qubbesoft of the UK and a few other Public Domain software dealers also offer a set of about 100 public domain fonts that will work in LINEDESIGN. Clip art is available in vast amounts from DJC, Mechanical Affinity, Qubbesoft, etc. How good is the clip art? Check out the next pages for a few samples of what can be done. I saw Paul and Franks clip art collection of IBM PCX imported clip art recently (over 3,000 sets of images in a ten disk collection, and they are working on a second set!) and found quite a bit there. No adult graphics in the set, just lots of people, computers, scenery, animals, sports, business, religious, comic, cars, boats, etc. All of this for the low price of just a measly $40. Add this to the other programs listed and you can get into DTP in a big way. Though it is not needed, a Gold Card, Super Gold or QXL is best to get the speed. DTP is not noted for speed. When done on a souped up QL you have less time to do gardening, get coffee or read a book. It is best if you decide to go this way on a stock QL, with perhaps just a Trump Card (recall when that was state of the art for the QL?), you should at least add Minerva for speed and improved ROM, Hermes for a bit more speed and allowing you to use higher speed printers at over 9600 baud, and Lightning for more speed in graphics, math and text. By the time you get all of that you can now get a Gold Card for around $200 and come out way ahead.

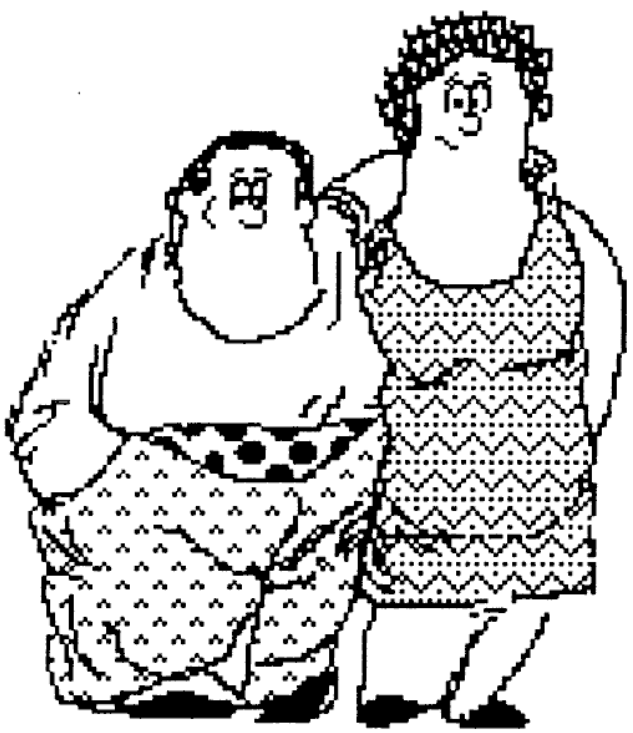
What else is around in DTP? In recent months we had the long awaited release of Page Designer three. I have found this a very good program for the easy handling of fonts, high defintion fonts, borders, and graphics. It works well with 24 pin, 9 pin and deskjet printers. It

very reasonable at only about $63 US$. Even though Dilwyn Jones Computing is soon to leave the marketplace to attend to closer family ties, all of his programs will still be out on the marketplace, this one included.

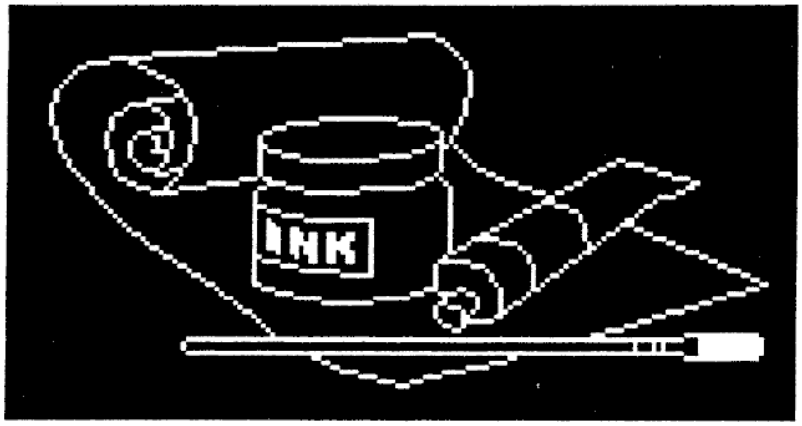


LET US LOOK AT SOME SAMPLE CLIP ART FOR THE QL

Some of the clip art is very simple whereas some of the rest can be very complex. What I really want to see next for the QL is the release of Miracles Graphics Card. I am tired of looking at graphics with very few color choices. With all the nice new color printers out there that we should be able to use with the QL, it is time we came into our own in graphics and color printers! Think what we could do with the higher resolution and with the new and bright colors. I believe we have only a short wait till we can add a VGA or SVGA monitor to our QL, and a Deskjet or Bubblejet color printer and see true beauty. This is one of the true areas we have suffered in when compared to the mainstream computers such as the Amiga, IBM and the MAC. Thanks to the efforts of those such as IQLR, UPDATE, DJC, Progs, Jochen Merz, Miracle, EEC, Mechanical Affinity, Falkenberg and TF Services, etc., we are seeing the maturity of the QL come about. Do not at this time give up your QL. If you hang in there just a while longer you will see far more than I have even begun to dream of. This is far more than Sir Clive Sinclair ever thought of the QL in terms of. He may have been responsible for the original birth of the machine, but it is the above, plus Tony Tebby who have made it what it is today. We are making progress! I have yet to see why some of our QL users are so willing to spend thousands to "upgrade" to an IBM,but not for new QL stuff!



What do you want to see made available for the QL? How about a good hand held black and white or color scanner. I could go for that.



What else is new for the QL? Well there has been some big changes come about in the way of operating systems for the QL and compatibles (QXL, SMS2 for the Atari, etc.) and they deserve some attention.

The first is to look and see what we have available for an operating system. Here in North America the mainstay for years has been the JSU ROM. This is the one that came resident in the QL. Some people went and changed this in the early days to a JS or JM ROM from the UK. Others went and got a Bent EPROM board for their QL either from Tom Bent in the early years, or in the last 5 years from Mechanical Affinity. This allowed them to put any of the various ROMs in their QL, and reduce heat and the amount of electricity needed to power the computer. It was very popular and handy. The most popular new ROM at that time was the MGUS ROM (they still have that available for those who want it) which cured some bugs in the JS series of ROMS.

The next big change, and still very popular, was the MINERVA ROMs from T.F. Services in Europe and from Mechanical Affinity in North America. It gave faster graphics, the ability to multi-task SuperBasic programs, dual screens, easier font use, just to name a few improvements.

Now we have an even newer alternative for those who want to make the plunge. It is by Tony Tebby and appears to have been started as a legal way around Amstrad having (in Europe, but not North America) the rights at the time to the ROM on the QL. It first showed up on Jochen Merz's board to convert the Atari ST to a QL (a hardware device, with software) and offered improvements to the file handling to take into account the hardware on the Atari.

The next improvement was brought about by the need for a new operating system for the QXL card by Miracle Systems (a card to plug into an IBM clone and turn it into a fast, powerful, truly multi-tasking machine that emulated a QL). Thus we found SMSQ, a new operating system that even had a new and more powerful replacement for SuperBasic, and yet remains compatible. It has all of the latest device drivers for the QL that were available at the time. Some of the users on the QXL liked the new operating system so well that they wanted it on their QL with Gold Card or Super Gold. Thus was born SMSQ/E.

I recently had Frank Davis get me a copy of this from Jochen Merz of Germany who is the distributor of SMSQ/E. He got one for himself while at it. We are both exploring the new operating system and so far find most all of it to our liking. It takes a bit of getting used to, but what in computing does not, heh? It has new virtual devices, such as "history". As Jochen says in his advertisement it "gives you much better control and buffering on the SER and PAR devices. You can

independently set either a dynamic or static buffering to any port, which even allows you to have more than one channel open to the same port (they are printed in the order they were opened)."

One of the things I noticed first about SMSQ/E was the speed of the screen driver. I was also told that you could change the size of the screen display, so I spent some time playing around with this. This was so neat that I did not even have to restart or re-boot the computer to do so.

So what was there that I did not like about this new system? The same thing I complained about on the early IBMs. You have to load in your operating system from disk, or hard drive if you are using one. And it then uses up some of your memory. The system is too large to put on an EPROM the way that was done with MINERVA and the MGUK ROMs. It is also only available for use on your QXL, or by buying it and using it on a Gold, or Super Gold Card. The use of memory and device drivers does not let you use this on a Trump, Sandyboard, or Cumana. You have to have the newer hardware. For my own programming needs these will be minor annoyances, but for some this will put them off from ordering it. Speaking of ordering it, Frank liked it so well that he talked himself and Paul Holmgren into carrying it for Mechanical Affinity. It has far more pluses than minuses and takes us into the next generation of operating systems for the QL.

What else is new on the QL? I am sure that most of you by now know that we have hard drives available for the QL, right? Some will say "Well we have always had them, haven't we?" In one way or another we have had some.

For years the way to get a hard drive for your QL was to either buy a Thor (a clone of the QL from Europe), but they are now only available as used when and if you can find them at all. Then for a short while there was the Rebel Interface for an RLL hard drive , all sold as a kit and generally only 20 MEG of memory (not very much by todays standards). These too, at this time are only seen as used ones. It was a nice machine and worked well. For years we also had the Miracle Hard Drive, and it was offered in 30 and 40 meg versions. It was nice, but was expensive. When Miracle got into making the Gold Card, they quit offering the hard drive. Sales were not what they expected, probably due mainly to price.

Next was the Falkenberg Hard Drive, of which I bought two. They were MFM and RLL hard drive interfaces, an older PC technology. Once you get them configured right, they worked quite well, but were not as fast as the newer hard drives of today. They could use a single hard drive upto 416 MEG of memory. It was quite impressive, but the drives, while they can be still found, cost more than IDE or SCSI drives. I sold one of my Falkenbergs, yet still use the other.

Now comes the latest and so far the best hard drive interface for the QL, the QUBIDE. It was designed and the board made in Croatia (not everyone in that part of the world is at war), and brought out of there by Ron Dunnett of Qubbesoft of the UK. The Rebel Driver was modified by Phil Borman of the UK. It is now available in North America by either ordering direct from Qubbesoft or from Mechanical Affinity in North America. It uses cheap and easy to find IDE hard drives. You get the small interface and then must purchase a drive, case and power supply, with IDE cable. Bye!

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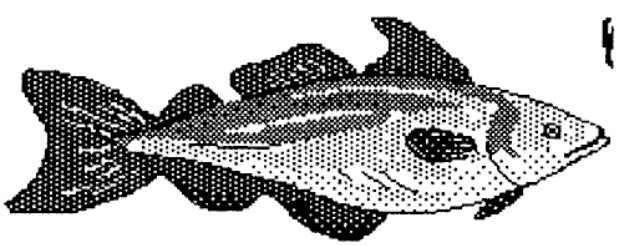

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CABLES FOR THE Z88

These examples of how to make up cables for the Z88 to be used with printers, modems, and data exchange with other computers was excerpted from the Z88 Source Book , compiled and edited by Tim Swenson, and available from UPDATE MAGAZINE for $7.00, postage paid.

Z88	Z88
2	3
3	2
4	4
5	5
6	6
7	7
8	9
9	8

Z88	QL SER2
2	3
3	2
4	4
5	5
6	6
7	7
8	8
9	9

Z88	MAC
2	5
3	3
5	1
7	4
8	1
9	2

Z88	PC DB25*
2	3
3	2
4	4
5	5
6	6
7	7
8	8
	20

*If hooking up to a PC with a 9 pin serial port, use this cable and a 25 pin to 9 pin adapter.

Z88	Modem
2	2
3	3
7	7
5	20
8	20
9	20

Z88	Printer
2	3
3	2
4	5
5	20
7	7
8	20
9	6,8

Z88	Amstrad CPC6128
2	3
3	2
4	5
7	7
5	20
8	

The Spectrum - Z88 pinout below assumes the Spectrum has an Interface 1 to provide a serial port.

Z88	Spectrum
2	3
3	2
4	5
5	4
8	
7	7
9	9

For users of British QL's, the serial port is an RJ11 phone like port. Here are the pin outs for both SER1 and SER2 for this type of serial port.

Z88	SER1	SER2
2	2	3
3	3	2
4	4	5
5	5	4
7	1	1

SINCLAIR INTERNET RESOURCES LIST

Compiled by Tim Swenson

Recently the mass media has discovered the Internet. News reports about the Internet, both broadcast and print, are becoming more popular. More and more books are being written about exploring the Internet. Your local library should have at least a few.

Since my introduction to the Internet some 5 years ago, I've kept on eye out for Sinclair persons and resources on the Internet. Now seems the time to put them down and distribute them.

If you are not familiar with any of the terms below, instead of my trying to explain them, I suggest you find a good book on the Internet at your local library and look up the terms in it. The explanations in those books are far better than mine.

EZINE

An ezine in an electronic magazine or newsletter.

QL Hacker's Journal
This ezine is put out in both electronic copy and in hard copy. The QHJ focuses on QL programming and comes out about 4 to 6 times a year. See below for archive sites.

MAILING LISTS

Spectrum & T/S 2068 Mailing List
Mauricio Tavares (mauricio@gauss.aero.ufl.edu)
This mailing lists focuses primarily on the Spectrum and it's emulators. Other Sinclair computers may be dicussed.

QL Mailing List
Guiseppe Zanetti (beppe@alessia.dei.unipd.it)
This mailing list is for QLer's only.

QL Hacker's Journal Mailing List
Tim Swenson (swensotc@ss2.sews.wpafb.af.mil)
This mailing list is for readers of the QHJ. It is similar to the QL mailing list.

Z88 Mailing List
Tim Swenson (swensotc@ss2.sews.wpafb.af.mil)
This mailing list is in the process of being created. Tim is now just collecting addresses of Z88 users on the Internet.

NEWSGROUPS

On USENET, there is one primary newsgroup for all Sinclair computers. It is comp.sys.sinclair. This group has only

just recently been created. Before that other newsgroups where used. The most commonly used groups were: comp.sys.misc, comp.sys.68k, comp.sys.68k.pc.

FREQUENTLY ASKED QUESTIONS (FAQ)

A FAQ is created to help newcommers to a particluar newsgroup or area. It is a collection of basic questions that most new users ask.

Spectrum
ftp.nvg.unit.no:/pub/sinclair/docs/specfaq

QL
maya.dei.unipd.it:/pub/sinclair_QL/faq

FTP SITES

These archive sites are constantly changing. If you've looked on them and found nothing of interest, try again in a few months, more interesting stuff have be uploaded. (FTP stands for File Transfer Protocol and allows transfering of files)

General Sinclair files
wuarchive.wustl.edu (128.252.135.4)
/systems/sinclair
Has files for Spectrum, QL, and Z88.
/pub/msdos/emulators
ZX81, TS1000, and Spectrum Emulators.

Spectrum Files
ftp.nvg.unit.no (129.241.163.231)
/pub/spectrum
/pub/sam-coupe

ftp.sun.ac.za (146.232.213.2)
pub/msdos/zx
Spectrum Emulators

irz.inf.tu-dresden.de (141.76.1.11)
/pub/zxspectrum

ftp.dcc.uchile.cl (146.83.4.40)
/pub/Sinclair

ftp.ijs.si (193.2.4.252)
/pub/zx

QL Files
garbo.uwasa.fi (128.214.87.1)
/pub/QL
This site only allows ASCII files, no executables.
Main Archive site the for QL Hacker's Journal.

maya.dei.unipd.it

/pub/pub/sinclair_QL
This sites allows binary's. Most are compressed with zoo. Also carries the QL Hacker's Journal.

ftp.nvg.unit.no (129.241.163.231)
/pub/Sinclair/QL

Z88 Files
sun.soe.clarkson.edu (128.183.12.3)
/pub/z88
The most common Z88 PD stuff is here.

csd4.csd.uwm.edu (129.89.7.4)
/pub/Portables

ftp.nvg.unit.no (129.241.163.231)
/pub/Sinclair/Z88

GOPHER SITES

Gopher is a BBS like interface, but it links more that one site. A menu item on a menu may take you to another host on the net. Gopher is comprised of two parts, a server and a client. You use a gopher client to link to a gopher server.

gopher.nvg.unit.no (129.241.163.231)
QL Hacker's Journal
Spectrum Frequently-Asked-Questions (FAQ)

WORLD-WIDE WEB SERVERS

World-Wide Web is like gopher in how it feels, but WWW can handle more than text and uses a hypertext interface. Hypertext means that instead of using a menu system, words in the text are like menu items and may be clicked on with a mouse to get to other areas. The most popular WWW viewer is called MOSAIC.

Spectrum
http://www.nvg.unit.no/Sinclair/Spectrum
http://www.cs.umd.edu/users/fms/comp
http://sable.ox.ac.uk/~tr95006/sinclair.html
http://http2.brunel.ac.uk:8080/~hcsrsml/comps.html

ZX81
http://www.maths.nott.ac.uk/personal/cpg/zx81
Yes, a World-Wide Web home page for the ZX81. It has pointers to a number of ZX81 emulators.

MAIL TO COMMERCIAL PROVIDERS

CompuServe
To CompuServe: user = 7777,777
7777.777@compuserve.com
To Internet: user@host.org.domain
>internet: user@host.org.domain

GEnie
To GEnie: user = j.public10
j.public10@genie.geis.com

More and more commecial service providers are creating gateways to the Internet. One commercial provider, Delphi is specifically an Internet service provider. It is bound to be one of the biggest commercial providers that focuses on the Internet. To know if your commercial provider has an Internet gateway, just ask them.

Z88 SOURCE BOOK

This book was compiled by Tim Swenson and published by UPDATE Magazine, and was designed to be a good and concise reference book on the Z88; how to interface it with the rest of the worlds computers; what products are available for it and where to find them. It will not replace your Z88 user guide, but will instead supplement it, and fill in areas that were missing by putting all this information in one easy to use book. When you order it we also include a disk of utilities and programs that are discussed in the book. This is available in the following formats: QL in 3 1/2 1440 or 2880 sector disks; QL in 5 1/4 720 or 1440 sector disks; IBM 360K 5 1/4 disks; IBM 720K 5 1/4 disks; IBM 720K 3 1/2 disks; IBM 1.4 meg 3 1/2 disks. Please let us know with your order which type and size of disk you need. The price for all of this is $7.00 US$, which includes P. & H. in North America, and elsewhere $7.00 US$ plus $2.00 US$ for the additional postage we have to pay. We will accept for foreign orders the cash equivalent, plus 10% for conversion, if you are unable to obtain a money order or travelers check in US$. We want to make this information widely available, so we are trying to be as flexible as possible.

Printer Editor Setup up for Z88 and HP Deskjet 520

By Tim Swenson

Since the Miracle serial-to-parallel interface cable works on both the QL and the Z88, I'm able to use any of my parallel printers with either computer. Since I have recently picked up an HP Deskjet 520 inkjet printer for the QL, I needed to setup the Z88 to handle the 520.

Below is the setup for the Printer Editor for the Deskjet 520 (and almost any Deskjet Printer). I've seen a problem with the Subsript and Superscript. These commands are documented in earlier Deskjet manuals, but not in the 520. They don't seem to work in the 520, but the 520 is supposed to be backwards compatible to all earlier deskjets. If you have a Deskjet Plus or 500, it might work.

On the second page of the printer Editor, there is a section for print startup and print end. You would normally use these commands to send a command to the printer to reset. Since I switch between the final and draft mode by the switch on the printer, I don't want to send a reset to the printer.

There is also a section for translation of characters. I set up the first translate to traslate the British Pound symbol to the ESC character. Now I can enter ESCape sequences right into my PipeDream document and have even more control over the printer.

Remember, when doing page layout that the Deskjet only has 60 lines per page.

		ON	OFF
String	Underline	27,38,100,49,68	27,38,100,64
	Bold	27,40,115,51,66	27,40,115,48,66
Ext. Sequence			
	Italics	27,40,115,49,83	27,40,115,49,83
	Subscript	27,40,115,48,83	27,40,115,48,85
	Superscript	27,40,115,43,49,85	27,40,115,48,85
	Alt. Font		
	User Defined		

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Supporting All QL Programmers

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TIMEX PUBLICATION INDEX, part 2, by Paul Holmgren

CAPTURE soft game
SYN 1-4 ZX80

CARD SHUFFLE soft
SYN 2-4
TMZ 20 routine
TSU 1-5 "

CASSETTE DIRECTORY soft
TD 2-4 make for 2068

CASTLE DOORS soft game
SYN 1-1 ZX80
" 1-3 fix for above
" 1-4 " " "
" 2-5 8K update

CAVERN soft game
TD 2-4 2068

CEMETERIES soft
SYN 3-2

CHAINING PROGS soft
SYN 4-1
TD 2-4 1000 pt 1
" 2-5 " " 2
" 2-6 " " 3
" 3-1 " " 4
" 3-2 " " 5
" 3-3 " " 6, end

CHAOS soft
TMZ 447 2068

CHARACTER ANALYSIS soft
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" 3-3 " mods

CHARACTER SET soft
TUG (pre Sum) fat bits
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" 4-1 " "
TD 3-3 Classy Front End pt 1
" 3-5 " " " pt 2
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" 4-2 " " " bug fix
" 4-3 Classy Front End windows
" 4-4 " " "
TSH #8 change 2068
" #11 lower case 1000
" #13 change 2068

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" 1-5 " " " fix
" 1-6 " sine wave
" 2-6 curve plotting ZX80, Hypotrochoid
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" 263 " Pie charts
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CHESS PATCH soft game
SWN 3-4 AERCO & 1000/1500
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SYN 3-1
" 3-4 mods for above
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" 3-6 2068 alarm clock
TMZ 308 2068 alarm clock

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" 4-3 extra for 2068
" 4-6 " " "
SYN 3-4 Colorsin81 ZX81/1000
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COMET CRUSHER soft game
SYN 2-4
" 2-6 for more RAM

COMPILER soft
SWN 2-5 2068 Print compiler
" 2-6 fix note
TD 1-3 2068 store print statements & recover with MC

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TSU 1-5 1000 writes Poem

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" 2-2 fix for above, both ROMs
" 2-4 " " "
" 2-5 conversions twix both
TD 3-4 number base converter

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Crossing THE Masteriod BELT soft game
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SWN 5-1 transfer data twix 2068 & 1000
TD 3-2 1000, external data collection
" 3-3 pt 2

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" 3-1 " " " 2
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SWN 3-1 create & store MC
" 5-2 1000 & BUMP
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" 1-5 teach to READ
" 1-6 " " "
" 3-4 READ/DATA using strings
" 3-5 " diff method
TD 1-3 for 1000
" 2-5 move array to DATA lines
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" #15 MC for 1000

DEFMAG soft
SYN 3-6 store & synthesize sound

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" 1-5 " fix

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" 3-5 " fix
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" 2-4 move AROS carts to disk
" 3-6 FDD file manager, FD-68 MC hints, Larken IF mods
" 4-1 FDD & RAMEX
" 4-5 AERCO, merge, dir, LARKEN cass to, PASCAL on LARKEN ZEBRA track reader

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TD 4-6 1000, needs static RAM

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" 2-5 " " bug (above), fix home ROM, Verify EPROMs
" 2-6 fix 1500 ROM LOAD bug
" 3-1 " " " " "
" 3-2 " home ROM bugs
" 3-5 eraser, cart board
" 4-2 fix for " "
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" 3-2 explanation
TD 4-2 tips
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" 382 2068 & 1500
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" 5-2 Fun reports 2068

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" 3-6 Fix for above

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SWN 3-2 1000 (fun)

FEET AND INCHES soft
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TD 4-5 fix? your 2068 tips

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TSU 1-4 math quiz 1000

FLATTOP LANDER soft game
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" 5-6 " diff versions

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" 3-1 8K update

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GAME PATCHES soft
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" 192 Spectrum Soft-Aid tape
" 228 Art Studio AERCO CPI
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SYN 4-1 1000 & 2068

GRADES soft
SYN 1-4 ZX80, tests, histogram
" 3-2 grade book

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SWN 1-3 line draw, see Low-Res
TMZ 214 Etch-A-Sketch
TSH #1 For kids
" #2 bug fix for #1
" #2 for kids
" #3 Animation
" #5 & text
" #11 Bar graphs

" #17 Draw boxes, various CLS routines & find any lines address
" #18 Partial CLS, fill
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" 1-5 Video graphity, universal patterner, Kwikplot
" 1-6 Patterns

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" 1-3 " Walls & Dikes, Crazy Quilt, from DATA, type usage
" 1-5 Pixel graphics
" 1-6 fix for above
" 2-1 " " "
" 2-6 turtle graphics, line drawing with MC
" 3-2 fix for line draw, MC
" 3-4 " " " " "
" 3-5 Quick draw with MC
" 4-2 draw circles MC & BASIC

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" 2-1 3D drawing
" 3-2 Curve tracing
SYN 4-1 bubbles
TD 1-4 & printer
" 1-5 algorithms
" 2-5 Designer Graphics
" 3-1 " " son of
" 3-2 Run Length encoded RLE graphics
" 4-1 RLE pt2
" 4-6 small tips
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" 23 SIN & fill-in
" 70 doing graphs 1
" 77 " " 2
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" 141 small prog
" 202 " "
" 226 Run-Length-Encoded RLE
" 236 & 239 RLE article
" 244 mix graphic & banner?
" 290 Garland
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" #7 bug for 2068 above, Rotating Globe
" #8 new fix for bug in #5, Plotter
" #9 Spirograph
" #10 " mods
" #11 Bar graphs
" #14 MC graphics loop
" #15 add to programs, Bit Mapped Scroll
" #16 Clover
" #17 fractals
" #18 Etch-Ah-Sketch

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TD 2-2 replace with mouse
" 2-4 fix spray

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" 2-1 " fix
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" 3-1 8K update

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TD 3-2 1000 keyboard tutor

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HEX DUMP soft
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" 2-1 " fix
" 2-3 converted for 8K

* TS2068 UPDATE ISSUE DISKS *

These disks contain a program, suite of programs, or a set of utilities that have either been presented in UPDATE, or sponsored by. This is done in the hopes of encouraging and sponsoring the authoring of TS2068 or Spectrum software by North and South American programmers. They are guaranteed to be worth the money. At times vacant space left on these disks is also filled with particularly appealing Public Domain or Shareware programs for the TS2068 or Spectrum. We also welcome programs from our other readers anywhere in the world. We support at this time Larken and Oliger disk formats for the TS2068. Contact us for other formats. Please let us know what size, interface format and density of disk you wish the program in. Half of the funds received go to the author of the program. Please feel free to offer a program for inclusion in our Issue Disk Series.

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1) THE JOHN McMICHAEL GRAPHICS COLLECTION- This is a six disk set of IBM clip art graphics converted for use with Print Factory, the desk top publishing program for the TS2068. Can also be used with Pixel Print, by Lemke. They are offered in Larken and in Oliger disk format. Each disk is $7, or $40 for the entire collection. The best ever for the TS2068.

2) LOGICALL PROFESSIONAL V5.2- This is the Auxiliary Operating System and Integrated Software Package that completes your Larken multi-drive system. It allows you to move in and out, and around your system and programs with usually two keystrokes or less. No need to turn off your machine. The best Larken improvement yet. Soon to be available for the Oliger sytem. Authored by Bob Swoger. $15 for the program.

3) THE WIDJUP COLLECTION- This contains some of the most popular programs formerly offered by WIDJUP. They are not Public Domain, all were commercial and given to UPDATE for distribution by Bill Pedersen with his passing. This is a two disk set, and does not contain his CAD program. It has editors, printer drivers, games, TS2068 tutorials, etc. In Oliger or Larken format. Priced at $20.

4) WIDJUP'S CAD PROGRAM- This is a long time favorite for Larken and Oliger users. It will give you professional results from your TS2068 in the area of computer aided design and the development of printed circuit boards. Bill used to even use it to make disk labels and DTP. Let us know which format and whether it is for either an IBM compatible printer or an Olivetti Inkjet printer. The price is $20.

5) OLIGER DISK DRIVE BBS PROGRAM- This will create a single user BBS program, with several message bases, E-mail, and SYSOP chat area. The rest of this disk is chocked full of other programs either by, or enhanced by, Paul Holmgren (program author). In Oliger format only. The price is $20.

6) 24-PIN BIT IMAGE GRAPHICS FOR 24 PIN OR BUBBLE JET PRINTERS- This program, by Larry Crawford, is for Epson emulation modes on your printer. It takes the mystery out of graphics when used with some of the newer printers out there on the market. We have also included some extra software with this one, and all of this for $15. It is available in either Larken or Oliger format disks.

Needless to say we are always interested in a new issue disk we can present here for our readers. If you are out there writing programs, or know someone who is, give us a chance to present your software to the users, and perhaps make a bit of change in the bargain. This way we all win. We make royalty payments twice a year based upon the sales. Sales are not guaranteed, but we do our best!

* QL UPDATE ISSUE DISKS *

These disks contain a program, suite of programs, or a set of utilities that have either been presented in UPDATE, or sponsored by. This is done in the hopes of encouraging and sponsoring the authoring of QL programming by North and South American programmers. They are guaranteed to be worth the money. At times vacant space on these disks is also filled with particularly appealing Public Domain or Shareware programs for the QL. We support all know disk formats for the QL. Please let us know what format you wish yours in when you order. The prices are as listed and do already include postage and handling. Half of the funds received go to the author. Please feel free to offer a program for inclusion in our Issue Disk Series.

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1) HARTUNG UTILITY ISSUE DISK- Here we have some excellent programs for the QL, such as a stand alone database, an Address and QSO file program, etc. It also gives lots of programming hints and tips for QL programmers. All are in SuperBasic. The Address file can also be used as an inventory program, or use it to print out labels. Both screen and printer output can be alpha-sorted, or done by last name. The price is $15.

2) CABLE ARCHIVE ISSUE DISK- Written by Bill Cable, perhaps Americas best known programmer for Archive. Contains many useful ARCHIVE programs that work on any Archive database. Titles include: DIR (directory within Archive), SCAN (quick database display and print), FREQ (frequency distribution of a field), SPLIT (split 1 database display and print), JOIN (join 2 databases into 1), REFIELD (redefine field names), REPLACE (replace text within a database), MATCHER (find dupes within a database), WINDEX (word index any text file), GROUP 1 to 3 (useful procedures from UPDATE articles), QUERY (interrogate any database). Also includes extensive DOC files about the programs and ARCHIVE in general. Commercial Quality! The price is $20.

3) QLUSTER 5s109 ISSUE DISK- A great program from Al Feng to provide you with many utilities to handle and unclutter your disks and MDVs (and it now supports sub-directories such as in Level 2 devices such as FLP LEVEL 2 ROM for Trump Cards and Gold Cards). Some of the features concern COPY, DELETE, FORMAT, VIEW, as well as extended use of some of the TK2 commands (TK2 needed for this program). The program is TURBO compiled for a speedy program. It is MINERVA compatible, multi-tasks, and allows you to use minimal keypresses to do the job. The price is $15.

4) QLuMSI DOS 4.30 ISSUE DISK- The latest version of Al Fengs extensively updated MSDOS simulator (not emulator) and front end program for the QL. Other programs on the disk enhance file management and cloning of other programs. Educational and useful. The price is $20.

5) QLAMBer ISSUE DISK- Al Fengs latest issue disk and it is even compatible with the QXL now! He calls it A_Moving_Box/enhancedrelease! This greatly extends the selective file management capabilities of the QLUTter program by additionally accessing six TK2 keywords, while reducing CODE size, easily supports sub-directory access, and easily multi-tasks within QRAM or Taskmaster. TK2 must be on ROM or loaded prior to start up of program. The price is now $20.

6) COMMS & COMPRESSION COLLECTION- Eliad Wannums collection of the best P.D. and shareware fax, telecommunications, and file compression and decompression programs available for the QL. This is a four disk set that is extremely useful, and all the disks are fairly loaded. The price is $20.